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TIMES PAST — THE TIMES

HIGHER EDUCATION SUPPLEMENT
Priory House, St John's Lane, London EC1M 4BX. Telephone 01-253 3000

The battle for tenure

The decision by the council of Aston University to approve, in principle, compulsory redundancies among academic staff may be a less dramatic development in the sad and unnecessary contraction of the universities than it appears at first sight. The obvious interpretation of Aston's action, of course, is that if successful it will encourage several other universities to follow the same course. *Après Aston, le deluge*, so to speak. So the Association of University Teachers will be obliged to go to court, first to seek a declaration that the university's intention is contrary to its charter and statutes, and secondly to support any individual university teachers who are dismissed. To retain the French flavour, Aston will be the AUT's Verdun where the principle of academic tenure must be defended whatever the cost.

The less obvious interpretation is that few universities will follow Aston's lead. Many have no need to, because the financial predicament they face is less pressing; many will not want to, because the defence of academic tenure rests as much, or more, on the natural and praiseworthy reluctance of colleagues to fire their fellow teachers as on legal entrenchment in statutes and charters. The main obstacle to the breaking of tenure is not these legal defences – which sooner or later can be whittled down – but the collegial tradition of higher education with its confusion of employers and employees, which in terms of industrial relations may appear illogical but in terms of intellectual creativity is highly productive.

Another reason for believing that Aston's action will prove to be the exception rather than the rule is that in terms of the immediate need to contract the university system the breaking of academic tenure is a sideshow. For the Department of Education and Science (to be distinguished in this respect perhaps from ministers) the main problem, half-solved civil servants believe, is slimming down the number of university posts to match reduced resources. Once it seemed that tenure might be an important obstacle, but it has gradually been massaged away by the generous application of early retirement and restructuring balm. Now tenure is seen as a minor hiccup in a few universities.

As for new university teachers there will be so few over the next five years, despite the various "new blood" initiatives, and so many of them will be on fixed term or temporary contracts that it hardly seems worth raising the emotive issue of the reform of academic tenure. For the Government the best policy would seem to be a war of attrition against academic tenure, the slow but steady elimination of tenure clauses from statutes and charters that come before the Privy Council for revision combined with a regime of tight budgets that leave universities little room to make new permanent and tenured appointments. In this way the present practice of academic tenure could be very much modified and curtailed by the end of the 1980s. The main obstacle to such a slowly-slowly strategy is the ideological impatience of ministers who want quick and dramatic changes.

So the universities face a dilemma about how best to protect their interests. If the first interpretation is correct, the AUT is right to stand and fight and the vice chancellors' low-profile policy appears complacent and even collaborationist. On the other hand if the second interpretation is preferred, the AUT's present strategy is not only very high risk, because the courts may not support the present concept of academic tenure as a form of property right, but also irrelevant, because it offers no effective defence against the attrition of tenure.

For the real danger today is of an intensification of a well-established tendency in academic employment, towards a shrinking core of tenured, and aging, teachers surrounded by a growing number of younger untenured teachers and researchers on fixed term or part-time contracts. Whatever happens in court, this trend will continue, indeed new factors will accelerate it such as the proliferation of "new blood" stratagems which almost inevitably involve fixed term appointments, the growing importance of continuing and even entrepreneurial education which again will demand more flexible patterns of employment, and perhaps even the disaggregation of research from teaching with similar effects. The job practices and patterns appropriate for a reliably UGC funded university system will inevitably be substantially modified in a system increasingly dependent on "soft money".

So by the 1990s the academic profession may be set in a new, and unsatisfactory, mould with a professional core and a semi-proletarianized penumbra. This may be a startling, but it is hardly a surprising prediction. After all this is a common pattern outside Britain. Even at home the embryonic features of such a pattern are well established. The plight of untenurable researchers is hardly new. The need for "new blood" has been there since at least the middle 1970s when the rate of student growth first began to slow.

Sadly instead of a sophisticated debate about the very difficult and sensitive task of reconciling secure employment and the conditions for proper academic freedom with the more flexible and open patterns of higher education which so many would like to encourage, we are offered black-and-white alternatives. One view is that traditional tenure must be defended at all cost, which ignores the crucial fact that this position was effectively outflanked long ago (and significantly never so heavily entrenched in the non-university half of higher education). There is no point in winning the tenure battle in the courts if the imagined effect of such a victory is frustrated by the even more rapid growth in non-tenured posts.

The opposite view is that traditional tenure represents a block to the development of higher education and therefore must be removed. But again there is no point in "breaking" tenure in the hope of producing the conditions for future flexibility if the actual effect is to produce a demoralized academic profession in which all traces of collegiality and intellectual independence are lost. The paradox is that, despite the great differences between these two views, they are likely to lead to a remarkably similar result, a pattern of academic employment which divides and demoralizes the profession while producing little extra capacity for flexibility and adaptability.

In fact, the sooner we stop talking just about tenure – the word itself forms an emotive block to sensible discussion – and extend the debate to the broader context of the future shape of the academic profession and the employment pattern and practices designed to achieve this objective, the sooner positive progress is likely to be made. For it is as important for the defenders of tenure as for those who seek to erode its protection that such progress is made.

The forgotten victims

Overseas students are fast becoming the forgotten victims of the higher education cuts, as international indignation turns to resignation and attention at home moves on to other issues. The Government has ridden out the storm, such as it was, and is now considering a package of measures which, given previous ministerial pronouncements, is unlikely to have a significant impact. Mr Francis Pym, the Foreign Secretary, has already made it clear, in commissioning the inter-departmental review which has produced the proposed package, that no new money is available.

Even the realistic but unambitious recommendations of the Overseas Students Trust, which prompted the review, required the injection of £15m additional public expenditure to supplement £20m to be reallocated from various departments' budgets. While Mr Waldegrave may have been right when he told the Commons that "considerable improvements" were possible through reallocation, he must know that ordering with the system will not undo the damage caused by his predecessors' crude and peremptory action in introducing full-cost fees. The problems of a system which is out of control, benefiting neither the academic institutions nor Britain's reputation overseas and offering only a slim chance of reaching the most needy or gifted students abroad, demand more serious treatment.

Ticklish shambles of definitions which have secured dramatic improvements in their overseas recruitment cannot disguise the continuing decline in overall numbers or the changing composition of those who do come. The most recent statistics from the Universities Central Council on Admissions show applications still declining in the sector best able (and most actively trying) to attract those who can afford the fees. Indeed, some universities now find themselves advertising alongside private colleges with rather less enviable reputations and devoting staff time which might be spent on more academic pursuits to recruit students for purely financial reasons.

The question of how many and which overseas students are desirable for the well-being of the academic community has almost ceased to be a consideration. Commercial pressures have made some contribution towards boosting numbers through scholarship schemes, but this can never be more than a drop in the ocean. Meanwhile, Britain's traditional contribution towards Third World development and one strand of the relationship with our Commonwealth partners is left to wither. Further damage will be done to the already tarnished image if overseas fees are raised in line with inflation while those for EEC students (included in the home category) are frozen.

It is not as if other Western countries share the Government's apparent indifference towards the (subsidized) education of foreign students. The equally hard-headed United States administration has allowed and even encouraged a dramatic increase in overseas student numbers, partly drawn from countries such as Malaysia which previously relied on Britain. Mrs Thatcher was prepared to spend untold millions of pounds meeting British responsibilities in the Falklands. A fraction of that sum spent mitigating the effects of a policy which even some ministers admit to have been ill-considered could do lasting good both for higher education at home and international relations abroad.

Laurie Taylor

Ah, Doctor Plaistow. Do come in. Have a seat.

Thank you, Sir.

Now then Plaistow. How long have you been with us, polytechnic?

Well, Sir. I moved over from the university sector nearly thirteen years ago.

Of course you did. Why was that, Plaistow?

Well, Sir. I felt, and I hope this doesn't sound too pretentious, that working here would be more of a . . . how shall I put it, yes . . . a challenge.

Jolly good. And how old are you now, Plaistow?

45 Sir.

Excellent. Well, how have you found the "public sector" after university life?

Much harder, Sir.

You mean the extra length of terms, Plaistow: the difference between working 27 weeks a year and 40?

Well partly that, Sir. And also, you know, the need to be here every day of the working week.

Yes indeed. And perhaps also the average number of hours of teaching per week?

Yes Sir, in a way. *After all, there* are round about 22, which is just over double.

And some of the evening teaching was also a bit of a change?

Oh certainly. Quite a change. Especially now that the part-time degree work has pushed it up to two evenings a week. It means my own research work spreads over the weekends.

Anything about the general psychological atmosphere?

Yes, I suppose so. Much less security. Always on three months' notice. That sort of thing.

Ah, Plaistow. I'm glad you mentioned that because it's in the general area of security that I wish to chat to you.

Yes, Sir?

Let me be a trifle more specific, Plaistow. You're sacked.

Sir?

But don't worry. I'm delighted to tell you there's a brand new government backed compensation scheme for people like yourself.

There is, Sir?

Oh yes. In fact your total lump sum . . .

Yes, Sir?

Comes to well over . . .

Yes, Sir.

One quarter of what you'd have received if you were in an identical position in a university.

Thank you, Sir.

Oh, and Plunkett . . .

Yes, Sir?

Take some advice from me, will you, as you set out on your new two decades of unemployment.

Sir?

Try to think of it as a challenge, Plaistow. I think you'll find it helps.

Thank you, Sir.

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Principal to retire early

by Sandra Hempel

The principal of a London University college is taking early retirement to help make way for young academics.

Dr Bryan Thwaites (above), head of Chelsea College, will retire on his 60th birthday in December 1983, two years before the end of his contract. He says he does not believe he should be immune from the pressures that vice chancellors and principals are bringing to bear on their colleagues to retire early.

"Announcing his decision, Dr Thwaites says that the drop in numbers of 18-year-olds and in funded university places over the next 15 years will not be matched by the loss of university teachers retiring at 65. By the year 2000 there will be twice as many academic jobs for even more brilliant young scholars.

"A whole generation of very clever young people will be lost to the universities. Worse still, there will be very few experienced academics of high quality attainment to fill the many senior positions which will be falling vacant in the first years of the next century."

Dr Thwaites says that he has been a professor or a head of college for more than half his career and "in most circumstances that is more than a fair share".

Dr Thwaites also wants to give his successor as much time as possible to get involved in Westfield's development over the next five to ten years. The college has just announced it is to merge with Queen Mary College and plans are also going on with the University of London.

Dr Thwaites has been principal of Chelsea since 1966.

Science suffering says FRS survey

by Jon Turney
Science Correspondent

Lack of "new blood" and loss of technical support are the most damaging aspects of the university cuts for scientific research, according to a major survey of fellows of the Royal Society. These findings are backed up by similar surveys by the Royal Society of Chemistry and the Institute of Physics.

Four out of five fellows in university departments who replied to a Royal Society questionnaire sent out in June reported that inability to recruit new lecturers or postdoctoral workers was a real problem. Many said this was easily the most worrying aspect of the cuts and had long-term consequences for teaching and research.

Nearly 200 fellows replied to the questionnaire. Other harmful effects mentioned included cuts in libraries and equipment, loss of research grants because of shortcomings in university laboratories, premature retirement and increased teaching and administration loads.

The picture that emerges is of a series of effects which reinforce one another. Fellows complained of the demoralization caused by emigration of key researchers or whole groups, lack of money for day-to-day supplies or travel to meetings, and difficulty in funding pilot projects before submitting a grant application.

The society maintains that the July 1981 cuts, coming after a steady erosion of research funding in the 1970s, are undermining Britain's competitiveness in a number of disciplines, including astrophysics, biotechnology, fusion techniques, marine geophysics, organic chemistry and particle physics.

The questionnaire indicated that the misery was fairly equally spread across different disciplines, and a second survey by the Committee of Heads of University Chemistry Departments gave similar results. First returns from this survey show concern about "new blood" and equipment grants. And money for apparatus will be even tighter in future than these replies indicate because the Department of Education and Science has reintroduced a cash limit for the equipment grant next year and worsening exchange rates increase the cost of essential foreign-made items.

Preliminary analysis of a third questionnaire sent to heads of university physics departments through the Institute of Physics gives a similar picture. Comments received have not been processed fully, but numerical returns show a significant fall in technical and academic staff numbers and a rise in students enrolled, backing up the Royal Society's findings on teaching loads.

The society also cites the survey figures in its response to the Merrison working party's report on support of university scientific research, issued this week. The society's council welcomes the report, but says that it makes no proposals which will avert the collapse of the dual support system because of the reduction in UGC funds.

The society calls for earmarking of a portion of UGC allocations for research and suggests there is little force in the arguments against earmarking put forward in Merrison's report. It also says that the demographic assumptions underlying education planning take no account of differences in the birth rate between social classes.

The society's comments on the report also endorse the selectivity of the UGC cuts, agree that the principle of tenure should be re-examined, and call for index-linking of the Research Training Support Grant.

Student intake reached fresh peak in 1981

The proportion of school-leavers going on to higher education reached its highest point for six years in 1981, according to revised Government statistics, as colleges expanded intakes even further than was previously thought.

But Mr William Waldegrave, under secretary for higher education, who announced the figures in a Commons debate, later praised public sector institutions for their actions in spite of their damaging effect on Government targets.

Estimates of this year's position, produced by the Chartered Institute of Public Finance and Accountancy, show some decline in polytechnic enrolments, but further increases in spending. Meanwhile, staffing levels have also continued to rise, according to the Department of Education and Science, largely because of a substantial increase in part-time posts.

Mr Waldegrave announced in the Commons that the all-important age participation rate – the ratio of young entrants to the 18-year old population – for 1981–82 stood at 13.2 per cent; the highest since 1975–6. Earlier estimates had suggested a rate of 12.9 per cent.

Officials expect that the APR next year will be not far out of line with the 1981–82 figure.

The qualified participation rate – the proportion of entrants to the number of school leavers with minimum entry requirements – stood at 87.9 per cent. The previous highest was 87.7 per cent in 1976–77. Last year it stood at 86.1 per cent.

The overall increases mask a sharp decline in the universities' share and an even sharper increase in the numbers in the public sector.

In the Commons Mr Waldegrave claimed the figures were the "highest ever."

But published Department of Education and Science figures show that the APR of 13.2 per cent was exceeded throughout much of the early 1970s, reaching a peak of 14.2 per cent in 1972–73.

Mr Waldegrave told polytechnic information officers meeting in London: "The local authority colleges have done a remarkable job in ensuring that for the students entering in 1981–2 the Robbins principle has not been breached at a time when universities have been asked to limit their numbers by the UGC

continued on page 3

Labour voters reveal lack of desire to learn

Each of the 2,500 interviewees was allotted points on a scale of 0–3 according to the extent of past participation (school-leaving age, exams passed, any post-school or post-initial education) attitudes to participation (regret or contentment with having left) and hopes or intentions for future education.

The individual's score, plotted on a graph against social class and voting intention, revealed a fairly even spread of attitudes though with a tendency towards future participation among Conservative and Liberal voters and the middle classes, but a very large cluster – 33 per cent of all Labour voters and the same percentage of working class people – with the very lowest scores, meaning they had virtually no post-compulsory participation, no regrets about it, and no wish to participate in the future.

Whereas 18 per cent of Conservative voters and 19 per cent of Liberal voters were in the highest scoring group, having participated in continuing education in the past and wanting to do so again, only 7.6 per cent of Labour voters were there.

Next week the Labour Party will launch its post-18 education discussion document which calls for a commitment to expanded and changed continuing education. Labour's spokesman on post-18 education and the chairman of the working party that drafted the document, Mr Phillip Whitehead MP, said that at present continuing education seemed to offer something which ran counter to the social values in Labour voters' lives.

"The fact that they don't at the moment realize this doesn't absolve us from offering them the opportunity."

Details, page 11
Leader back page

Academics have a clear responsibility to dispel the disparity between rich and poor nations, Herr Willy Brandt, former chancellor of West Germany told Leeds University when he delivered their annual Development Lecture on Monday.

Herr Brandt, who also received an honorary degree from the university's chancellor, the Duchess of Kent, said: "Far too many academics are not pursuing productive research. Their talents are wasted on narrowing the target area of missiles or on putting sophisticated arms into orbit when we should be using them to broaden our understanding of global problems and put appropriate tools into the hands of millions of poor and hungry people."

AUT issues writ over Aston job losses

The Association of University Teachers this week issued a High Court writ challenging Aston University over the threat of compulsory redundancies. The writ seeks a declaration that the 19–17 vote by the university council to authorize compulsory redundancies in principle was a breach of Aston's charter and articles, and an injunction to prevent any further steps.

Vice chancellor, Professor Frederick Crawford has said that no moves to implement the decision will be taken until after the next council meeting on December 14, But he resisted attemps to reopen the question at last week's senate meeting.

According to the university, all but 18 of the 50 redundancies notified to the Department of Employment will have been achieved by voluntary means by the end of the year.

News in brief

SSRC to fund inner city study

The Social Science Research Council is to spend £448,000 on a three-year research project on the causes of inner city problems, concentrating on four conurbations in England and Scotland.

Clydeside, the West Midlands, the Bristol region and two contrasting areas of London (Brent, Ealing and Hounslow in the west and Southwark, Lewisham and Greenwich in the south) will be examined for symptoms which could provide a national picture.

Academics in each area will carry out local research to be fed into the main project, which will be directed by Mr Victor Hausner, a senior visiting fellow at the Policy Studies Institute. Mr Hausner, an American, worked for President Carter's Economic Development Administration chairing a task force on a federal urban policy.

Bold design

The Council for National Academic Awards has appointed Dr Mark Oakley as design management research fellow to investigate ways of teaching industrial managers the significance of product design and strategy.

The purpose of the research is to identify the best industrial practices, both abroad and at home and to see how the management of design can be most effectively taught.

Cheap ideas

Innovation through recession is the theme of the annual conference of the Society for Research into Higher Education at the University of Southampton from December 15–17. The conference will bring together teachers, researchers, and administrators to share insights on both the theory and practice of innovation under adverse economic conditions.

Places are still available. Details are available from Dr Haydn Mathias, department of teaching media, University of Southampton, Southampton SO9 5NH.

ILEA plugs in

The Inner London Education Committee computing centre was opened this week officially by ILEA leader Bryn Davies. The centre, which started operation last year, designs and provides the software for use by colleges and schools.

ILEA claims that the centre is the only one of its kind and scale in the country spending £2m for computer developments and in the training of teachers in the use of computers in various disciplines.

Gaelic promotion

An Comann Gaidhealach, the official Gaelic promotional body, is to urge Scottish universities and colleges of education to mount bilingual courses to ensure an adequate supply of teachers for interested non Gaelic speaking teachers.

Monkeys saved

Sixteen Macaque monkeys which faced being destroyed because of cuts at Stirling University have found a permanent home at Edinburgh zoo. An appeal raised £10,800 to build them an enclosure, the first bricks of which were laid by actor Iain Cuthbertson.

Oiling the way

Britoil and Conoco UK are to fund a senior lectureship in naval architecture and ocean engineering at Glasgow University. Each will provide £50,000 over the next five years.

GMC not BMA

A report in last week's *THES* on the role of professional institutions in regulating the quality of degree courses inadvertently attributed a watching brief on medical schools to the British Medical Association. The item should have referred to the General Medical Council.

Birmingham to shed 40 posts in a month

by Sandra Hempel

Birmingham University has launched a campaign to lose 40 academic posts by voluntary means by the end of the month. Compulsory redundancies will be considered in January if targets are not met.

In the meantime all vacant posts are frozen except those in medicine and dentistry with a high clinical commitment, and other posts can only be released "very exceptionally" if the alternative would be the collapse of a department's main teaching programmes.

In future, applications for retirement and redundancy will be considered more rigorously. The university says its management interest will be defined as the urgent need to reduce staffing levels rapidly.

While it is denied that people will be "picked off" by being approached individually, the university says "every encouragement" will be given to staff to consider early retirement and voluntary severance according to individual circumstances. This will be done at department level.

Grant cuts imposed by the University Grants Committee in 1981 meant that the university could have faced a £5m a year deficit by 1983/84, a spokesman said. It was decided to cut 140 posts and 100 had already gone through natural wastage.

At a meeting in November senate decided to put back the target date by a year and the aim is now to balance the books by 1984/85. A plan for compulsory redundancies drawn up last summer has not been considered by senate but the university warns that if necessary progress towards target savings has not been made by January, "further consideration will be given to alternative methods, including as a last resort compulsory redundancies".

Dr John Glen, president of the Association of University Teachers at Birmingham, said that the union did not believe that 40 posts needed to be lost. With economies in other areas and with the new Government money towards Universities Superannuation Scheme contributions the 40 jobs could shrink to 20, he said.

"I am hopeful that we shall be able to avoid compulsory redundancies but would prefer that they should be ruled out as has been done in other universities where the cuts suffered are comparable with those at Birmingham".

Meanwhile the vice chancellor of Liverpool University has warned that academic staff there could still face compulsory redundancy although spending was cut by £1m last year.

Professor Robert Whelan said that while the university was on course in its strategy for survival there were still grave difficulties ahead. Spending at the 1980/81 level had to be cut by £5m a year, or about 12 per cent, by the start of the 1983/84 session and the university was trying to reduce staff by natural wastage.

"We have not had to declare redundancies so far and there is hope, though still no guarantee, that we shall be able to achieve our objective without doing so", Professor Whelan said in his annual speech to court last week.

TUC plans to rescue shop stewards' courses

by David Jobbins

Trade union leaders are drawing up contingency plans to enable the TUC's education programme to continue if Government aid is slashed.

A levy of individual members of affiliated trade unions is one of the options likely to be considered by the TUC's education committee when it considers recommendations from a special working party later this month.

The trade union movement's courses for union officers and shop stewards already faces a substantial reduction – especially in the vital area of day release courses – in the New Year. This is because of a cut in Government funding amounting to 25 per cent when inflation is taken into account.

Just £1.6m was allocated to the TUC for 1982–83, compared with £1.84m last year. Even then, actual spending approached £4m and demand for day release courses is increasing.

Mr Norman Tebbit, Secretary of State for Employment, has publicly questioned whether the unions should receive money for training officials when they refuse aid for secret ballots. TUC leaders are bracing themselves for an announcement that the 1982–83 grant has been severely cut or withdrawn altogether.

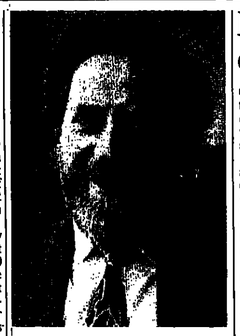
Officials are reluctant to discuss the nature of alternative funding in case it prejudices discussions on their "formal" £2m claim for 1983–84 – a 25 per cent increase on the current year.

The TUC's education committee has decided to maintain pressure on civil servants at both the Department of Education and the Department of Employment, and to make direct representations to ministers when appropriate.

An internal report considered by the TUC education committee last month says it would cost £725,000 this year to maintain the day release programme at the 1981–82 level, but only £605,000 was available. By increasing fees 10 per cent next year the demand for day release courses could be met by a £800,000 grant from public funds. A further £1m would be needed to allow for a modest increase in other work such as course development and tutor training.

The options were being discussed this week by union education officers and a levy was likely to be considered the least unpalatable measure if the Government removed support entirely.

The other possibility is increased affiliation fees with an amount earmarked to maintain the TUC's education work and higher fees. The TUC has already effectively increased fees for residential courses by reducing its subsidy to affiliated unions who run their own courses from £90 to £75.



Successor to CDP secretary named

The new secretary to the Committee of Directors of Polytechnics will be Dr Michael Lewis, registrar of Oxford Polytechnic. He takes over from Mr Peter Flowerday early next year.

Dr Lewis, who is 45, graduated with first class honours in geology from Oxford and gained a doctorate at King's College London. He lectured at the University of Glasgow before working for the British Council, the Polytechnic of the South Bank and the Council for National Academic Awards as assistant registrar for research degrees.

MPs' doubts on the record

Government documents missing from the Public Records Office sowed doubts on how well PRO officials were doing their jobs, a Commons select committee was told this week.

Sir Duncan Wilson former ambassador to the Soviet Union and chairman of a committee which criticized the care and availability of Government papers, was giving evidence at the start of the inquiry by MPs into academics' access to official records.

Sir Duncan told the Select Committee on Education that he wrote to the permanent under secretary at the Department of the Environment three years ago about some papers on the division of North Sea oil fields which were not available. No representations about the papers had been made by PRO staff to the department, he said.

Government departments and quangos were also criticized for allowing documents to go astray. Sir Duncan picked out the Manpower Services Commission, the Northern Ireland Office, the Ordnance Survey and the Supplementary Benefits Commission as being among the worst.

He was also critical of the Government's refusal to set up "sector panels" of historians and academics to advise on which documents should be kept.

Generally he felt that Government secrecy was "a little overdone" from time to time.

Liverpool considers course closures

Plans went before Liverpool education committee this week to close courses in planning, architecture and library studies at the city's polytechnic to compensate for the £1.5m shortfall in its allocation from the Advanced Further Education pool which the council refused to augment.

The proposals to end the BA in architecture and the BA in environmental planning and librarianship were originally put forward earlier this year along with a threat to close the building which houses the department of town and country planning.

The threat seemed to be averted when the courses committee drew up four lists of courses ranging from those which had to be preserved at all costs including architecture, to those which should be closed immediately. But the closures put before the education committee on Tuesday apparently ignore the recommendations of the course committee.

The 15 members of staff in the town and country planning department wrote to councillors defending their courses on the grounds that the directorate's plans were illogical and did not constitute a rational academic plan.

They argue that planning and architecture are two out of only eight polytechnic departments which currently show a financial surplus, according to calculations by the former assistant rector of resources, and the decision to close would lead to a deterioration in the budget.

MSC introduces national standards

by Karen Gold

The Manpower Services Commission will introduce national standards and tests for youngsters on the Youth Training Scheme, though possibly not for its first intake next September, the commission's principal training adviser announced this week.

From the outset, local schemes should be based on five "core areas" to develop trainees' competence on specific courses designed round eight general elements, Mr Alastair Robertson told a conference on the New Training Initiative organized by the London and Home Counties Regional Advisory Council.

The five core areas were number and application, communications, manual dexterity, problem solving and planning, and computer literacy and information technology.

They should be taught in a scheme which included induction, planned work experience, off-the-job training or further education, a system for assessment of trainee aptitude and achievement, a system for reviewing and recording trainee progress, a system for trainee guidance and support, opportunities for learning in the core areas, and opportunities for learning occupational skills, he said.

They should give youngsters a chance to learn about the world of work, basic skills, skills for doing specific jobs to appropriate standards, how to be "personally effective" – planning things out, solving problems, and relating to other people, how to cope within the wider community as an adult and how to use their skills in other studies.

At the end of the scheme, trainees would have a certified level of competence in both the core areas and the particular occupational skills they were taught.

The MSC, training validators and the industry training boards were currently discussing a modular-based system of assessment and certification for trainees throughout the United Kingdom, Mr Robertson said.

"In principle those boards believe it is possible. We aren't thinking of testing numbers by giving people sheets of sums," he said, "We are looking to test young people using number in working applications."

The certification would look to what the trainee had done – where, with whom, when and for how long what had been learned – basic skills, occupational skills, and understanding industry and the world outside, and what had been achieved – specifically, in general, and in individual interests.

Further and higher education would have to adapt to youngsters emerging from the scheme instead of conventional academic education, he said. Further education colleges must not expect all YTS trainees to start at the beginning of a course, but must accept them at all levels.

"We haven't yet opened up the route from YTS into higher education but that is a very clear objective that we have," Mr Robertson said. That might include youngsters beginning A level study while on a scheme, and the MSC had to start talking to the universities about the scheme's "competency-based" rather than subject-based systems.

Union wants more microchips in school

The college lecturers' union wants more Government money for teacher education and curriculum development using microelectronics. And one of the suggestions made in a union policy statement is met by the announcement this week of an expansion in the Department of Education and Science funded Microelectronics Education Programme.

The National Association of Teachers in Further and Higher Education's policy document on new technology says that low investment in microelectronic equipment in education now will make Britain "utterly dependent" on foreign technology in future. The union calls for more funds for the MEP, and its development to cater more for further education. Natfhe wants to see a basic awareness component to introduce all new teachers to new technology, and courses for specialist teachers of computing and microprocessor applications.

Mr William Shelton, the junior education minister, went some way toward accepting Natfhe's arguments this week when he announced the allocation of an extra £500,000 for the MEP next year pushing the budget up to £4.3m.

Overseas fees 'must change'

by Sandra Hempel and John O'Leary

Ministers came under new pressure this week to endorse fundamental changes in overseas students' fees with the publication of the first report by an influential Commonwealth committee.

The report, *Educational Interchange within the Commonwealth Imperative*, urges the Government to change its methods of calculating full-cost fees, if necessary making Commonwealth students a special case, as the first step towards abandoning the full-cost policy. Short-term marginal costs are recommended as the most appropriate bench-mark for setting fees, halving the charges as a result.

It also lends strong support to proposals contained in the Overseas Students Trust report for a reorganization of Government budgets to provide targeted awards in recognition of the various interests served by the recruitment of foreign students.

Although the committee recognizes that fees policies are a domestic concern, it singles out Britain for particular attention as the leading host country for Commonwealth students.

The standing committee on student mobility, which produced the report, was set up as a direct result of discussions by heads of government at a conference in Australia attended by the Prime Minister. Chaired by Sir Roy Marshall, vice chancellor of Hull University, it also included former Conservative Home Secretary Lord Carr and eminent academics from a number of Commonwealth countries.

Its proposals come as ministers are considering the report of an inter-departmental inquiry ordered by Mr Francis Pym, the Foreign Secretary. The inquiry has produced a range of options for the Government based on the OST's report, some of which could be introduced at no extra cost and others which would require investment.

Meanwhile, a plan to charge overseas students up to £8,000 a year offset by bursary awards will go before Aston University senate next week.

Its aim is to give the university greater control over the numbers of overseas students coming to Aston and reduce its dependence on an unpredictable source of income. It has been drawn up by a working party of the finance and academic planning committee.

The university calculates that it subsidises overseas students by around £1m a year on top of the government imposed minimum fee it charges. It now proposes to include this subsidy element in its overseas fees.

The subsidy will continue but will be paid in the form of bursaries. The university will decide how many overseas students it wants and each department will be allocated a set number of bursaries.

Departments will be able to recruit extra overseas students but they will have to pay the full rates. The university calculates that a physics postgraduate student costs it £8,307 a year; a physics undergraduate £5,559; an electrical engineering postgraduate £8,213; an electrical engineering undergraduate £5,510. Sociology postgraduates and undergraduates cost £4,231 and £4,706 respectively.

Aston has traditionally taken a large number of overseas students. They represent one fifth of the total student population there in 1980/81.

Critics of the plan say that the image of the university will be harmed by advertizing such high fees abroad despite the bursary scheme. Some departments are also worried that having bursary and non-bursary students on the same course paying widely differing fees will cause resentment.

Central control plans upset Edinburgh staff

by Olga Wojtas
Scottish Correspondent

Staff at Edinburgh University are upset about plans to place control over academic policy in the hands of a small committee.

Some academics fear this is an attempt to undermine the traditional autonomy of Edinburgh's faculties. They say it represents a fundamental constitutional change in transferring power to the education policy committee.

Edinburgh's principal, Dr John Burnett, who issued the document said: "There is no change of the power structure at all. It is a reiteration of the powers already embodied in the education policy committee's remit and, as always, senate has the last word."

But he added that faculties would have to be "more discriminating" in their recommendations than they have been in the past and agreed that they would have less self-determination.

He warns in the document that further substantial losses could threaten the independent status of the faculties of music and divinity. The divinity faculty has taken this to mean that the principal recognizes it can sustain no more job losses.

Dr Burnett also cites several departments, including ancient history, chemical engineering and human genetics, which might lose "either their viability or independent status".

The overall reaction in the university is puzzlement. One professor said: "Obviously some things have to be decided outside the faculties, such as the balance of resources among them. But if the idea is that more and more of the spending decisions should be centralized, I would oppose it very strongly".

Faculties should plan priorities among their existing activities and how they could be achieved more cheaply, while the educational policy committee would "determine university priorities", the document says.

The principal describes the faculties' attitudes to savings as "disappointing and dangerous" in that they are "generally reluctant to contemplate actions other than the bare minimum required to meet their immediate savings targets with a minimum disturbance to their present structure and activities".

Poly staff angry at lack of consultation about cuts

Staff at Brighton Polytechnic fear that proposals to cut 80 teaching and non-academic staff before 1983 are an attempt to anticipate the National Advisory Body's 10 per cent cuts exercise without proper consultation.

The proposals went before the polytechnic's council this week in a surprise move before it knew the likely extent of further education pool allocations. Council members discussed these in anticipation of the NAB "hypothetical" cuts by including a possible 5 per cent cut in next year's plans.

Mr Bob Burn, chair of the National Association of Teachers of Further and Higher Education branches at the polytechnic, said that sacking 40 teaching and 40 non-teaching staff would be a break in the conditions of service agreement with East Sussex County Council. This stipulates that there should be a year's notice of any voluntary redundancy scheme.

"Our major complaint is that there are important decisions being taken, which preempt the NAB exercise, without adequate consultation, and that the members of the academic board and governors have been given insufficient information to take that decision," said Mr Burn.

At present there is no indication which departments or subjects are likely to be affected by staff redundancies. Its directors see the polytechnic as a centre of excellence for information technology and teacher training. A policy option group composed of "experts" who do not represent the polytechnic's faculties will make the decision.

Mr Geoffrey Hall, the polytechnic's director, denied that the proposed staff cuts had anything to do with the NAB exercise. He said they were a straightforward response to the £1.4m budget deficit.

Portsmouth Polytechnic last week withdrew plans to cut staff and courses particularly the humanities and social sciences departments. Discussions are now taking place along more equitable lines although the future of the fine arts courses still hangs in the balance.

Oxford Polytechnic seems to have resolved an internal dispute about NAB's call for polytechnics to earmark areas of activity to be retained. A resolution from Mr Brian Tongue, the director to the academic board, agreed all programme areas should be treated equally. This would mean that all subjects would suffer to the same extent should NAB make its demand for cuts.

Oxford also plans to reduce its student intake and to put definite limits on its student numbers in an attempt to reduce spending.

● The National Advisory Body has presented its first report to Sir Keith Joseph, Secretary of State for Education.

Its central objective in the coming academic year will be to complement the short-term plan to offer advice on the allocation of the pool for 1984/5 and on the approval of programmes. The report says the timetable will be tight and it anticipates much of its efforts will be directed towards making sure colleges and polytechnics adhere to it.

Students from colleges and polytechnics hit by the Government's cuts in teacher training staged an all-night vigil outside the Department of Education and Science this week. Tommy Sheppard, secretary of the National Union of Students (left) and NUS executive member Frank Howard (right) are pictured with local union representatives.

The cuts have caused serious delays in the processing of record numbers of applications for places on Post Graduate Certificate in Education courses. More than 20,000 applications have been received at the Graduate Teacher Training Registry and the first offers would normally have been made to students by now. But the unprecedented volume of inquiries, added to the late decision on departmental quotas has meant that institutions are yet to receive any applications and interviews will not take place until the new year.

Uncertainty grows over dean's leave

by Jon Turney
Science Correspondent

The London Hospital Medical College is in confusion over the future of the college dean. Professor David Ritchie, just over a year after he took office. Officially, Professor Ritchie is said to be on three months leave of absence at his own request, but this follows attempts to persuade him to resign.

Professor Ritchie, who is head of the department of surgery, began his contract as dean in October 1981, on the retirement of Sir John Ellis.

In September this year, a group of about half the 38 heads of department signed a written declaration of no confidence in the dean, after telephone canvassing and private meetings, and this was passed to Professor Ritchie and the governors. Professor Ritchie took leave of absence shortly afterwards.

Mr James Walmsley, the college secretary, maintains that Professor Ritchie is expected to resume his duties in January, but Professor Ritchie himself said he had no idea whether he would continue as dean, and added that he was in touch with his lawyers. The acting dean, Professor Mirrel Floyer, refused to comment on the grounds that the whole matter was *sub judice*.

Medical academic staff and students in the college are concerned at the protracted period of uncertainty, and some are highly critical of the role of the lay governors in academic affairs.

Student intake

continued from front page

Polytechnics and colleges have taken the strain by greatly increasing efficiency and the intelligent use of resources and are to be congratulated," Mr Waldegrave said.

He praised the links between polytechnics and their localities as a particular source of strength especially at a time of public expenditure cutbacks.

In this context he felt polytechnics had brought their corner more successfully than universities in finding support within their local communities. Mr Waldegrave said he would personally regret any severing of links between local authorities and polytechnics though of course he had been well briefed on the many difficulties.

The estimates of student enrolments at polytechnics this year shows a decline in total, according to CIPFA Education estimates, although London boroughs showed a slight increase. The estimated 1981 figure for student enrolments was 249,110 compared to 230,719 for 1982.

NUS to debate procedure

Big changes to the way the National Union of Students decides its policies are to be proposed today.

A report to the union's winter conference in Margate puts forward a number of ways to increase participation while also saving money. They include amalgamating the January policy conferences held for each sector with the Christmas national conference, saving £35,000, and changing the constitution to allow the winter conference to be held on weekdays.

Detailed changes to conference procedures are also being suggested to increase participation – fewer than 10 per cent of delegates are now able to contribute. One possibility is a greater use of smaller working groups rather than the plenary sessions which currently occupy up to 30 hours of conference time.

NUS will also take its final vote on the controversial issue of cross campus ballots for delegation places – a move embarked on a year ago but now up for ratification.

The union's staff returned to work on Monday after the longest strike in NUS's history – the previous one, in 1976 lasted only an afternoon. Staff say they achieved all but one of their demands on matters of principle but the executive refused to guarantee a right of reply if the strike issue was raised during this weekend's conference. The telephone and reception staff at the centre of the dispute are to receive a £200 pay increase for logging telephone calls and all the 70 staff are to get a £50 "Christmas bonus" as a goodwill gesture towards making up for pay lost during the 10 day strike.

This will be the first conference as NUS president for Mr Neil Stewart who took office last summer. It comes at the end of a week which saw the failure of moves to disaffiliate from Newcastle Polytechnic, the London School of Economics and Durham University. A further vote was expected from Leicester University yesterday.

Activist defects to rival union

A past president of the Scottish Further Education Association is to defect to the rival further education branch of Scotland's largest teaching union, the Educational Institute of Scotland.

Mr John Frame, who served on the SFEA executive for nine years as treasurer and in presidential posts, was instrumental earlier this year in moves towards a merger between the SFEA and the EIS further education branch.

The new body would have been financed by the larger union, but would have been autonomous in policy making. However, a ballot of SFEA members narrowly defeated the proposal.

Mr Frame says he is not resigning as a direct result of his defeat. "While this was a catalyst, it only confirms my suspicions that SFEA members are being misled by hardliners whose motives and objectives are difficult to determine or understand."

Apathy seems to be a problem in the SFEA organization in the campaign towards unity in the tertiary sector, said Mr Frame. "This would tend to confirm the need for a pooling of resources to create the strong vibrant organization necessary to meet the obvious dangers of the future, such as reduction in advanced education provision, the encroachment of the private sector into traditional FE fields, and the 48-week year."

Such problems needed the expertise of both SFEA and EIS further education activists.

Mr Graham Alison, general secretary of the SFEA, said the union had not been officially informed of Mr Frame's resignation. But he added: "I regret that somebody who has worked so hard for the association in the past should feel himself placed in this position. It is also a pity that he is reopening hurts from the past."

Mr Arthur Houston, further education officer of the EIS, welcomed Mr Frame's decision and said that since the ballot there had been "a steady stream" of SFEA members to the EIS.

Social science 'still unsafe'

by Olga Wojtas
Scottish Correspondent

Lord Rothschild's review of the Social Science Research Council has put the social sciences in considerable danger although the council has been reprieved, a symposium at Edinburgh University heard.

Professor Malcolm Anderson, of Edinburgh's department of politics told the symposium on "The social sciences after Rothschild" that he admired the Rothschild report. "It presents issues in a manner which is comprehensible to the average backbench MP, and is brief and therefore accessible to busy people," he said.

However, he added, the report's defence of social sciences was vulnerable and would cause discomfort to academics. "The main burden of the defence is that social science research is socially useful. A lot of it is not and is not motivated by a desire to be socially useful. It is directed towards intellectual puzzles and problems," Professor Anderson said.

"The awful risk is that the providers of money can legitimately say if research is not obviously useful it ought not to be done, and this could lead to a general climate which would impoverish the intellectual activity of what goes on under the broad title of social sciences," he added.

Professor C. B. Wilson, dean of Edinburgh's social sciences faculty, warned that the Rothschild view that social sciences had a certain utilitarian value could lead to a situation where social scientists "do only what it pleases others they should do and become like a lapdog entirely contented with their lot knowing no other".

The social sciences were viewed with suspicion in Whitehall because of the widely-held belief that social scientists were left wing, said Professor Anderson. Although reputation and reality were quite different, social science in general and the Social Science Research Council in particular had been poor at communicating with the general public.

This had led to a paradoxical situation where large numbers of people were concerned to know more about pressing social and economic problems, but those who studied the problems professionally were regarded with considerable scepticism, he said.

Report inadequate, says Rex

Professor John Rex, head of the SSRC research unit on ethnic relations at Aston University, said the Rothschild report was a grossly inadequate discussion of what social science was.

Professor Rex is former head of the industrial relations research unit at Warwick University, which was accused of unfair bias in favour of trade unions during Lord Rothschild's inquiry.

"The value of social science research is the ability to pursue fundamental research which raises issues not normally raised by government departments," he said. "The question which must occur to us is how far the SSRC can function as an institution which guarantees social science research that independence," said Professor Rex.

"Unfortunately, all the political pressures are pushing the SSRC in a different way," he added.

Members of the symposium were concerned that Lord Rothschild had suggested an investigation of the Warwick unit's alleged bias. The SSRC units were subject to quinquennial academic reviews, but this was a political assessment over and above that.

Unlike the Government, the SSRC understood the nature of research, said Professor Alan Peacock, principal of the University College of Buckingham. With the government, the results were often supposed to have a bearing on policy problems to be resolved within the Government's lifetime, he added.

There was a bias against academic research, because it might reveal the shortcomings of existing policies or Government procedures, said Professor Peacock, former chief economic advisor in the Department of Trade and Industry.

Poly teachers go for parity with universities

by David Jobbins

Full parity between lecturers in public sector higher education and the universities is being sought by the Association of Polytechnic Teachers.

The claim is more ambitious on the parity issue than the policy to be drawn up by the National Association of Teachers in Further and Higher Education at a special conference tomorrow.

Natfhe leaders are seeking a modest upward extension of the senior lecturer scale as a step towards parity, but the APT is suggesting a straightforward alignment of public sector and university pay scales from the lowest point usually found in advanced further education to directorate level.

It proposes:-

- Conversion of all lecturer 2/senior lecturer salary points to coincide with the university lowest grade, with the lowest point corresponding with the normal point of entry (point three on the university lecturer scale)
- Principal lecturer/reader scales to coincide with the university lecturer/reader scale
- Creation of a public sector "professorial average" from the existing heads of department grades V and VI scales, with the addition of professorial level posts without the administrative duties of a head of department.
- Increase in principals' and directors' salaries to maintain differentials with "professorial" salaries within a range of £25,000 to £32,000.
- All parity payments to be increased by the rise in the retail price index in the year to April 1983.

The APT also wants the proportion of senior posts in the public sector increased to between 30 and 35 per cent, nearer the university level of 36 per cent and a considerable improvement on the APT's claimed 24 per cent in the polytechnics.

If ministerial predictions of a year on year inflation figure of 5 per cent by April prove correct the package should add about 12 per cent to the pay bill, accordint to the APT's national secretary Dr Tony Pointon.

The APT is sending copies of its policy to the unions on the Burnham further education committee teachers' panel and to the management for consideration along with other unions' views.

But as the APT is excluded from the teachers' panel, it seems unlikely to have much influence and Dr Pointon said: "We will then consider it as representing APT policy and will work for the negotiations to move towards its acceptance."

The association says it will be supporting lecturers in non-advanced FE in their claim for a salary increase which maintains their standard of living, but goes on to call for a change in the machinery to allow separate negotiations for higher education.

Natfhe is likely tomorrow to adopt a policy designed to maintain living standards while squeezing differentials through a combination of percentage and flat rate claim.

The move at a further special conference this weekend for a postal ballot on affiliation to CND by the National Association of Teachers in Further and Higher Education is expected to fail, union leaders who oppose the move predicted. Instead the special conference, is likely to vote for a formula which calls for a consultative procedure in branches.

	Public Sector HE salary	University (equivalent)	Rise needed for Parity
Bottom LII	6855	7225	5.4%
Top SL	12816	13505	5.4%
Top PL	15018	16180	7.7%
Head of Dept (Average)	18305	19405 (Professorial average)	19.0%

Low enrolments threaten non-vocational adult classes

by Karen Gold

Adult education enrolments in some local authorities have fallen so low this year that non-vocational classes probably no longer exist according to Mr Peter Clyne , assistant education officer for the Inner London Education Authority.

Interim enrolment figures for 33 l.e.as show a range of change from a 28 per cent increase to a 39 per cent decrease, with 10 authorities decreasing by 6–16 per cent.

More local authorities have supplied their fee changes to the National Institute for Adult Education which collects the figures. Out of 59 replies the average fee is around 55p per week, approximately 5p more than last year. Final figures will be published in the New Year.

Mr Clyne commented on the findings at the NIAE's annual one-day conference for l.e.a. chairmen and officers on the financing of adult education. "He suggested that one way of expanding the service would be to meet the adult education needs of other local government departments, such as housing, environmental health, weights and measures and museums and libraries.

"If we are going to maintain the quality of what we are doing and find time for voluntary orgnnizations, when the central allocation for adult education budget amounts to two thirds of one per cent, then the only way it can be undertaken is by savage cutbacks in what we are currently doing, literally by closing colleges," he said.

"The only alternative I can see to that is to take the arguments for the importance of adult education into bigger forums than we are taking it at the moment."

Earlier, Mr Roy Harding, chief education officer for Buckinghamshire, said the only development he could forecast for adult education was an incremental growth. More money was needed for new developments, for discretionary grants for individuals and for "multiplier" grants to voluntary bodies which would then provide more for the money.

"We have got to have a mixed economy," he said. "But my personal view is that much of the initial investment and development work in new areas and new approaches should be found by central and local government and they, not the institutions, should be asked to take the risks involved."

Mr Douglas Payne, secretary of the Workers' Educational Association's southern district said some local authority adult education institutes were far less cost-effective than others. "There are vast discrepancies in costs between adult education institutes and colleges," he said.

Later, Mr Geoff Price, chief executive of the London Borough of Redbridge, said adult education costs were very difficult to measure. In particular where Customs and Excise officers were considering imposing Value Added Tax, local authorities should be able to include overheads and administration in working out the cost of a class. This would guarantee that most would not be profitable and therefore not subject to tax, and the Department of Education and Science should back them up, he said.

But Mr Bernard Godding, head of adult education for Norfolk County Council's central area, said that calculating costs with VAT in mind could create other problems. "One of the difficulties we are now encountering is because we are desperately trying to show we aren't making a profit to keep the VAT man away," he said.

"But unfortunately not all our elected members know that is going on, and they are now seeing the cost of classes and saying 'How much of that are we getting from the customer?'. We are slowly throttling ourselves as we try assiduously to persuade the VAT inspector that we aren't doing what we know we are doing, and that's running a pretty excellent service," he added.

Scholarships phased out by King's

by Sandra Hempel

King's College, Cambridge aims to broaden the scope of student intake, particularly in the maintained sector by abolishing entrance scholarships and exhibitions from 1985. Only choral and instrumental awards will remain.

Awards are usually won after special post A level preparation which, the college says, most schools can now no longer give. The number of candidates applying before A level has been increasing recently and now accounts for 75 per cent of the student entry.

The present entrance exam geared to awards is inappropriate for many candidates, the college says, and leads schools to believe, wrongly, that even their best pupils will not meet the standards required.

The decision to abolish entrance awards did not mean that the college intended to lower the standards of entry, nor that it wanted to discourage schools from aiming at the highest possible levels of scholastic attainment. The purpose was to respond to changes in the schools themselves and in the pattern of application.

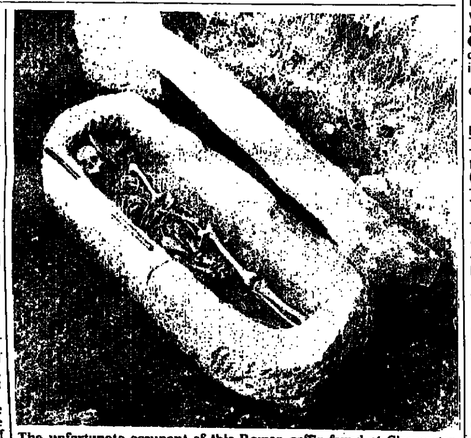
Choral and instrumental entry awards will stay because the college says it wants to admit students who will make substantial contributions to the musical life of the college and chapel as well as having the necessary academic achievements.

Post-entry tripos scholarships will still be awarded but the ending of the entrance awards will allow the college to concentrate on admitting candidates with the greatest potential from every kind of school. King's says.

Those Cambridge colleges which have entrance awards have been discussing abolition for some time but King's is the first to act. "We de-cided to go ahead unilaterally because you can go on talking about it for ever," a spokesman said.

Friendly brief

Two governors from Middlesex Polytechnic have met privately with the Prime Minister Mrs Thatcher and Mr William Waldegrave undersecretary for higher education, to discuss the polytechnic's future. Mrs Annie Enston, former Tory councillor for Enfield, said afterwards it had been a brief but friendly meeting but there had been differences of opinion.



The unfortunate occupant of this Roman coffin found at Cirencester, Gloucestershire, was the first known gout sufferer in Britain. The skeleton was one of 450 discovered in seven years of fieldwork by Leicester Polytechnic and the Cirencester excavation committee.

An analysis of the finds, carried out by the late Dr Calvin Wells, has revealed a number of common modern diseases. The commonest was arthritis, which afflicted almost half the adult population, while five skeletons showed evidence of spina bifida.

Socialists want science changes

Socialist scientists and writers have called for the reorganization of the five research councils to include trade unionists, consumers and research workers and the creation of a new Community Science Research Council.

A new pamphlet published by the British Society for Social Responsibility in Science says a socialist policy for science should not just lead to more research, but different research which is geared more closely to social need. The existing research councils are an obstacle to this goal, it suggests.

The pamphlet says the research councils are self-perpetuating, unaccountable bodies which make decisions about research priorities in secret. All research council meetings should be held in public, it urges, and the reconstituted councils should take account of the likely social implications of proposed research.

The document, which is also highly critical of present Labour Party policy on science, goes on to call for the formation of a Community Science Research Council which would operate quite differently from the other five, taking proposals for research from trades unions and community groups.

Mr Jonathan Rosenhead, senior lecturer in operational research at the London School of Economics and a member of the group responsible for the pamphlet, said it was intended as a campaigning document, bringing together ideas from a wide range of people with a critical standpoint on science. "We hope it will be used in local discussions and campaigns and may feed into future debates on science policy in the labour movement", he said.

The pamphlet also makes proposals for alternative policies in health, food, transport, energy and environmental research, and for non-nuclear defence strategies. It says science teaching, especially in schools, needs to be reshaped.

Science on our side. A new socialist agenda for science, technology and medicine 4 + 40p postage from BSSRS, 9 Poland Street, London W1V 3DG.

I blame the Government, says rector

by Felicity Jones

Current Government policies will lead to lost opportunities and stunted educational growth, Dr Peter Hart, the rector of Sunderland Polytechnic, warned at an awards ceremony last week.

Dr Hart referred unequivocally to the "far-reaching" effects likely to arise from the National Advisory Body which is busy with its planning exercise for 1984–85 and has assumed a reduction of 10 per cent in poly-technic and college income.

Without doubt, Dr Hart said, it was the Government's intention to reduce the opportunities available to school-leavers and cause a financial squeeze which would inevitably lead to the loss of both teaching and non-teaching posts.

Last year Dr Hart reported a 16 per cent increase in enrolments. Although applicants had substantially increased again this year across all disciplines, financial and resource pressures had forced the polytechnic to limit enrolments to 5 per cent above last year, he said.

"Let it be clearly understood by not only those of us professionally involved, but the nation as a whole, that it is a national tragedy and scandal that while the number of 18-year-olds reaches a peak, many suitably qualified applicants cannot gain admission to polytechnic or university," said Dr Hart.

The local authority's substantial investment over a number of years in plant and buildings had contributed to the polytechnic's strength, he said. But he reminded them not to forget that the institution was a major employer and contributor to the rates and that the local community benefited from the spending power of nearly 4,000 full-time students.

"The growth, development and prosperity of both parties are interwoven and on this point there should be no uncertainty or misunderstanding," said Dr Hart.

Sunderland had developed new degree and diploma courses in art and design, glass with ceramics, secondary community education and management studies. A £170,000 grant from the Science and Engineering Research Council had been awarded for the establishment of a teaching company and a further £200,000 was expected in the New Year. In chemotherapy research in the treatment of cancer the faculty of pharmaceutical sciences had received grants totalling more than £100,000.

Dr Hart said considerable interest had been shown in the new external development unit set up two months ago to coordinate consultation and educational services to outside agencies.

Hull suspends health levy on students

Hull University has suspended its levy on student health facilities in order to discuss new ways of raising the necessary £40,000. But student representatives are pessimistic about the chances of finding the money as the possibility of providing extra university funds has been ruled out.

The levy of £10 per student was introduced last June and so far just over 2,000 students have paid. The remaining 2,500 have refused.

The money is needed to help pay for health facilities not provided by the National Health Service, including the sick bay and psychotherapy.

A subcommittee comprising university management, faculty and student representatives has until December 6 to present its proposals to the senate. One suggestion is to ask the local health authority to take over responsibility for psychotherapy which would save about £15,000.

Mr Ewan Aitken, student vice president for social services said: "I was overjoyed when I first heard of the decision to suspend the levy. Now, however, I have come down off cloud nine and cannot see any way that the money can be raised."

Medical physics needs special support too, say professors

by Jon Turney
Science Correspondent

Heads of medical physics departments in London University want a single subject working party to consider the future of their discipline. The five professors of medical physics have written to vice chancellor, Professor Randolph Quirk, pointing out that their subject was largely ignored by subject area review committees in physics and biology. They want medical physics added to the list of disciplines subject to special scrutiny announced last week.

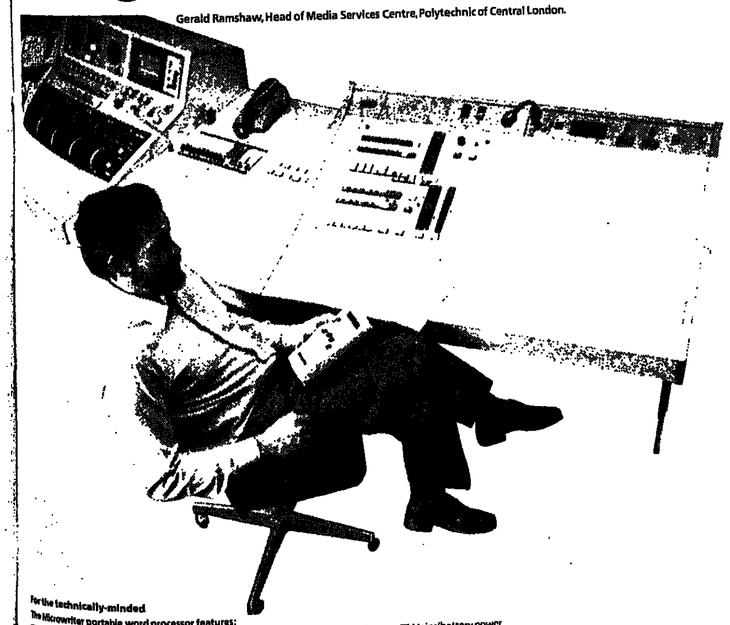
Professor Norman Kember of St Bartholomew's Hospital Medical College said that medical physics was under severe pressure, particularly in London as it fell between medicine and science. Professors at the Royal Free Hospital and Guy's Hospital were both due to retire next year, putting six or more additional staff at risk. Two staff had been lost from the Middlesex Hospital Medical School, and his department at Barts had already shed three academic posts and stood to lose another.

Professor Kember said that the subject could face a 50 per cent cut over the whole country, and London would make a large contribution to this. "There is no doubt that as an interdisciplinary subject we have suffered exceptionally under the UGC cuts because, when the chips are down, the major power blocks of medicine and pure science will not support us", he explained.

Radiation biology, a closely related subject, already has a special working party within the university. The only such department in the country, also at Barts, is asking for earmarked funds to prevent the subject disappearing altogether.

A few words from a head of department who's given up writing.

Gerald Ramshaw, Head of Media Services Centre, Polytechnic of Central London.



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North American news

Confrontation near over student aid

from Peter David

WASHINGTON

President Reagan: could trim loans

American university leaders, bracing themselves for a new round of budget confrontations over federal grants and loans to students, are not certain whether President Reagan will renew his onslaught on the Guaranteed Student Loan programme – a principal source of funding for more than three million students a year.

The White House failed this year to win Congressional approval for cuts of more than 40 per cent during 1983 in the panoply of federal programmes which assist students at university or college. Congress and the president could not agree on overall budget levels, and student aid is being financed on a temporary "continuing resolution" which pegs 1983 spending at current 1982 levels.

But the White House and the university community have already begun to square off for another confrontation over the 1984 budget. The Department of Education and the president's budget office have started talks on the possibility of renewing their offensive against student aid.

No details of the White House strategy for 1984 have been revealed, but Washington's higher education lobbyists assume that President Reagan will try again to restrict eligibility for the massive "Pell" grant programme for needy undergraduate students, and eliminate entirely a number of smaller grant and loans programmes.

However, the lobbyists are uncertain whether the administration will resume its efforts to trim the GSL programme. In debates in Congress this year the administration claimed that because the programme was at present an automatic "entitlement" for qualified students its costs had spiralled out of control.

As a result, the White House's most controversial student aid proposal in 1982 was to eliminate postgraduate students from the GSL programme and force them into a new and less attractive loans scheme at higher rates of interest.

The proposal became a principal focus of the universities' campaign against cuts in student aid. It would have meant that some 600,000 postgraduate and professional students a year who borrow money through the GSL at 9 per cent interest – deferred until they leave college – would be eliminated from the programme altogether.

Instead, such students would have to depend on a new auxiliary loans programme which required immediate repayments at an interest rate of 12 per cent. The higher education community convinced Congress that the measure would deal a heavy blow to postgraduate and professional schools at a time of growing national shortages of highly skilled manpower.

Many lobbyists believe that after suffering a decisive defeat on this issue in the last budget round the White House is unlikely to reinstate its threat to disqualify postgraduates. They point out that the cost to the federal government of the GSL programme has begun to fall, making it a less obvious target for economies.

According to the Department of Education the total number of GSL loans made this year (including both postgraduates and undergraduates) has fallen by more than 22 per cent since the previous year, from 3.5 to 2.7 million borrowers. Combined with falling interest rates, the drop in the number of loans is expected to result in a significant reduction in the cost of the programme.

One reason given for the falling numer of applicants is a new regulation making students from wealthier families undertake a means test before qualifying for a GSL loan. University associations claim that the new rule has been widely misunderstood and that many students who might qualify after a means test have assumed that they are no longer eligible.

But the falling cost of the GSL programme and the high degree of Congressional support for keeping postgraduates and professional students within the scheme have not entirely eliminated fears that the White House will seek major cuts in 1984.

Even if postgraduate students are kept within the programme, the administration may propose reducing the cost of the GSL by making all recipients subject to a means test on reducing the levels of subsidy.

The prospects are sufficiently worrying to have prompted the postgraduate and professional schools – which receive about 90 per cent of their federal income in the form of subsidized student loans – to consider setting up a special national panel to highlight the importance of continuing federal aid.

Following a meeting last month between the major higher education associations, a steering group has been created to look at proposals for convening a panel dedicated specifically to the problem of financial aid for postgraduate and professional students.

Tougher entrance tests on the way

from our North American editor

High school students in most parts of America will have to pass more stringent entrance requirements shortly if they expect to enter state universities, according to a survey conducted by the National Association of Secondary School Principals.

"The nation is apparently experiencing a major shift in university admissions requirements. A majority of states, some 27 in all, have already revised admissions requirements or have major study commissions currently under way," said Mr Scott Thomson, executive director of the NASSP.

Responses to the survey by state university presidents in all 50 states showed that many institutions were raising the admission test scores they demanded from applicants or specifying that school-leavers had succeeded in more courses in maths, English, social sciences or foreign languages.

In 13 states higher admissions requirements had already been formally introduced. They were to be implemented this autumn in Alabama, Alaska, Georgia, New Mexico, South Dakota and Washington. Other states which would implement higher requirements in coming years were California, Mississippi, Nebraska, Ohio, Texas, Utah and West Virginia.

Fourteen states were carrying out major studies of their admissions requirements, according to the NASSP survey.

Two states, Ohio and Nebraska, which previously required only that intending students possessed a high school diploma, will now specify what kinds of high school courses students must have taken.

From 1986 the University of Nebraska will insist that applicants have completed four years of English and two years of maths, science and social science. Ohio University is insisting from 1984 on four of English, three of maths and two of science, social science and a foreign language.

Other states demanding additional requirements include California, which has added one more year of maths and one more year of social science; New Mexico with one more year of English, one more of maths and two more of a foreign language; Texas, with an extra year of maths and social science; and Washington with an extra year of maths.

The state adding the most new requirements is Mississippi. In future it will require students to have completed one more year of maths and three years more of science; a half year more of social science and an extra year of a foreign language.

Alabama has raised the school grade point average it expects from applicants as well as the admission test scores taken by school-leavers. Georgia has declared that in future only academic subjects taken at high school will count towards a grade point average.

Mr Thomson predicted that the barrage of new requirements by universities would impose new strains on high schools. "The course requirements most commonly increased were in mathematics and science with which the nation is experiencing a teacher shortage. The new requirements will likely raise student enrollments in these classes, compounding an already difficult situation," he said.

Leafy Harvard: where the best costs less?

New England spends least

Although it is traditionally associated with academic excellence, New England spends less on universities and colleges than any other region in the United States.

A report by the New England Board of Higher Education – a coordinating agency subsidized by the six New England states – says all six states ranked near the bottom of the 50 states in the amount they spent on higher education.

Massachusetts, home of Harvard, MIT and a number of leading liberal arts colleges, has spent less than any other state for five years. Together the six states spend $752 less than the national average per student in public higher education.

The study calls on the six states to recognize a big change over the past 15 years in the balance of higher education in New England. Some 15 years ago a heavy concentration of private colleges meant that three out of five students in the region were enrolled in private institutions.

Today numbers were equally balanced, yet two thirds of all spending on higher education in New England came from the private sector.

Freedom ruling 'a victory'

Academics who serve on university appointments committees, and are subsequently taken to court by disappointed candidates, may be entitled on some occasions to refuse to divulge how they voted, a United States Court of Appeals said last month.

The ruling, which arose from a race discrimination allegation by a former lecturer at La Guardia Community College in New York, is being greeted by university leaders as a major victory in a long-running campaign to establish the confidentiality of sensitive academic committees.

In recent years a growing number of academics participating in appointments or tenure decisions have been taken to court by disappointed lecturers claiming to be the victims of sexual or racial discrimination.

The most celebrated case came two years ago when a Georgia university professor, Mr James Dinnan, spent three months in prison rather than accede to a court demand that he reveal how he voted on a panel which refused to grant tenure to Mrs Maija Blaubergs.

Mrs Blaubergs, who was not reappointed for discriminating against her because she was a woman. In a hearing in 1980 Professor Dinnan refused to tell the court how he had voted, on the grounds that doing so would imperil academic freedom.

Last year an Appeals Court sharply rebuked Professor Dinnan for his action and said it found "nothing heroic or noble" in his decision to to prison.

Professor Dinnan received widespread support from the higher education community, however. University leaders said it was becoming difficult to persuade members of staff to serve on appointments committees lest they be taken to court and accused of discrimination.

In the La Guardia ruling last month a different appeals court recognized for the first time that on some occasions the deliberations of appointments committees could be shielded by "qualified privilege."

The Appeals Court said that two members of a La Guardia committee which had decided against the reappointment of a black lecturer, who subsequently alleged racial discrimination, would have to reveal in court how they voted. But the court stressed that its ruling was based on the particular circumstances of the case.

The court said that in the case under review the litigant, Mr Simpson Gray, had never been given any reason for his non-appointment and therefore needed to discover how participants had voted in order to establish a case.

Saxon calls for higher taxes to avert university cash crisis

Dr David Saxon, president of the nine-campus University of California, is calling on the state to raise taxes next year to avert a major financial crisis within the 140,000-student university.

At a recent meeting with the university's regents Dr Saxon said UC may be forced to reduce academic programmes and close entire schools as a result of California's growing deficit of more than $1,000m.

"At the moment we do not know precisely how the university will be affected by the state's situation. It depends on how the state chooses to deal with it. Essentially, the state has only two options: cut budgets or raise taxes," he said.

Dr Saxon told the regents that the university consumed about 5 per cent of the state budget. If the state decided against a tax increase and passed the necessary cuts on to the university on a proportional basis, UC would lose more than $55m this year.

Should the deficit rise to $2,000m next year in line with forecasts, UC might have to absorb a long-term cut of $100m or the equivalent of its total general allocations to two of the smaller campuses combined, he said.

"We know that hiring freezes and expenditure deferrals will not solve a long-term problem. And we have concluded that it is not in the university's best interest to continue cutting budgets on an across-the-board basis, diminishing the quality of all programmes.

"That leaves, as the principal alternatives, programme reductions and student fee increases. Programme reductions of eliminating some entire programmes or schools."

Dr Saxon's warning coincided with a request to the regents to authorize a catching-up pay rise for academic staff at the university.

UC academics were caught in a state-imposed pay freeze in the current year. Their salaries are now estimated by the university administration to lag more than 10 per cent behind those at comparable institutions, including private universities like Stanford, Harvard and Yale and public universities like Michigan and Wisconsin.

At the same meeting, the regents were presented with a report claiming that huge sums of money would be required over the next decade to preserve and update the university's facilities. The funds needed would include:

- $1,600m for core facilities such as classrooms, laboratories, libraries, hospitals and clinics;
- $900m to keep existing facilities in good order through repairs and minor capital projects;
- About $300m for capital spending on self-supporting projects like dormitories and parking structures; and
- Operating funds totalling nearly $1,000m above current funding levels to maintain and operate the university's physical plant.

Mr William Baker, UC's assistant vice president, told the regents that the magnitude of the problem was so large that new sources of income would have to be generated along with an increase in state and university allocations.

These would include fundraising from private industry; diverting funds from operating to capital budgets; using portions of the university endowment and charging students new fees specifically for the use of facilities.

Peter David,
North American Editor,
The Times Higher Education Supplement,
National Press Building,
Room 541,
Washington DC 20045:
Telephone: (202) 638 6765

Overseas news

Turks fume over transfer lottery

from Bernard Kennedy

ANKARA

Many teaching staff in Turkish universities have suddenly found themselves out of a job, and many more are being appointed against their will to posts in far-flung cities.

As the effects of last year's major reform of higher education continue to be felt there have been allegations that some of the redundancies constitute a purge against left-wing intellectuals.

The number of redundancies already amounts to at least 200. The victims are junior lecturers, although some of these have many years of experience, whose contracts were made renewable on an annual basis by last year's Higher Education Council Act. The Aegean (Izmir), Black Sea (Trabzon), Seljuk (Konya) and Ankara universities are among those affected.

In general, the sacking are justified on the grounds that there is a surplus of teaching assistants (now known as research staff in many faculties or departments).

No specific reasons are being given for individual cases, which has led to speculation that deans and heads of department, many of them new appointees, are using their powers under the Act to dispense with individuals they dislike, consider troublesome or disagree with politically.

Although the redundancies appear arbitrary, it would be wrong to say they are purely political. There are excess staff in a number of university departments, especially in the major cities of Istanbul, Ankara and Izmir, but there are shortages elsewhere.

For this reason the Higher Education Council has organized a series of plans to decide which teaching staff should be compulsorily transferred to posts in less popular centres for a temporary period. The rotation system is a matter of great concern to hundreds of university teachers, who are understandably unhappy at the prospect of having to live and work in the relatively undeveloped cities and half-built colleges of Eastern Anatolia.

The council has sugared the pill by proposing financial bonuses, reducing the period away from home from two years to one in some cases and guaranteeing that the lecturers involved will be able to return to their original posts. Nevertheless, few opted to travel of their own accord – only seven individuals applied for a total of 127 vancancies at the Ataturk University in Erzurum, Turkey's coldest city.

Professors fall outside the scope of the so-called lottery, and so far efforts to fill vacant chairs at the newer and more remote universities have been limited to a search for volunteers, with very little success.

Professor Oktay Cokyuksel of Istanbul's Cerrahpasa medical faculty gained instant notoriety when he became the first volunteer. "If we don't choose to go, they'll send us," he reasoned.

Turkey's parliamentary-style Consultative Assembly heard strong criticisms of the Higher Education Council during its debate on the 1983 budget proposals, reflecting increased public conern over developments at Turkey's universities including the sackings. But the council's president, Professor Ihsan Dogramaci was there to answer his critics, and the budget allocations for higher education were eventually approved in full.

The whole range of present higher education policymaking was criticized in the assembly. Professor Dogramaci insisted that the council was not responsible for the sackings – they were a matter for individual universities.

He warned that there was no place in the system for those who did not do their work properly or did not fall in line with principles of Kemalist nationalism and democracy. "We are against theocracy, fascism and marxism," he said.

The council did not intend to impose a single curriculum on all universities, he continued. Recently, he defended new common syllabus guidelines on the basis that they would make it easier for students to change universities and would help ensure that degrees awarded at all universities were of equal value.

Turning to the general confusion which characterized the opening of the academic year, he said there were bound to be some hitches in this transitional period.

Professor Dogramaci also spelt out the reasons for the rotation system. Last year, the seven universities in Ankara, Istanbul and Izmir had nearly 80 per cent of the total number of academic staff, the remaining 12 having to make do with 15 per cent.

However, the council president is far from silencing all of this critics, who persist in seeing political motives behind the recent redundancies. There have been public calls for his resignation. Professor Onur Kumbaracibasi, former head of the Ankara Academy of Economic and Commercial Sciences, who recently resigned, said: "The record of the HEC in its first year will always stand as a black stain on Turkey's educational history."

Graduates don't meet job needs

by Thomas Land

Attempts to match student numbers in higher education to national employment needs have failed on both sides of the Iron Curtain, according to a study by the United Nations International Labour Organization.

The report, *Higher Education and Manpower Planning*, raises doubts about the assumptions on which both systems base their education policies. It traces the lot of recent graduates in a number of countries and reveals surprisingly similar trends.

Eastern Europe seeks to avoid an over-supply of academic qualifications by planning student intake according to its rigidly projected future manpower requirements.

As a result, up to 30 per cent of graduates in Poland, and roughly corresponding proportions elsewhere in the region, regularly fail to take up employment in the occupations for which they have been trained.

The report explains that "individual freedom of choice" exercised by the students is "usually permitted" although "within the constraints of (national) manpower plans". The study observes there are signs that, for the first time since the Second World War, the demand for higher education by individuals in the planned economies may be growing more rapidly than the number of places needed to meet forecast manpower needs.

The study found an almost reverse situation in Western Europe, paradoxically leading to similar results.

In the market-economy countries covered by the study, the basic criterion for university enrolment is the expected demand for places by individual school-leavers. There is also an increasing number of other adults who missed the opportunity of higher education when they were younger or who wish to update their qualifications. Neither individual choice nor manpower forecasts have matched the subsequent actual demands of the labour market.

As a result, the study found many Western countries "troubled by the emergence of significant unemployment among qualified workers for the first time since the 1930s".

The growing difference between the expectations of graduates and the reality of the manpower market is reflected in lengthy job hunting, declining pay differentials in favour of the highly qualified and increasingly frequent labour mismatch resulting in underemployment, misemployment and unemployment.

Such mismatches cost an estimated $1,000m (£500m) a year in Canada alone, spent by 10 per cent of the labour force, not all jobless, in constant search for appropriate employment.

New student union drops socialist tag

from Jane Marshall

Poland's "new" student union, the Polish Students Association (ZSP) claims to be a new independent organization. But it rose out of the socialist Polish Students Association (SZSP) simply by dropping the word "socialist" and is committed to the same Communist Party-orientated programme.

Its initial manifesto calls for "action for the realization of basic socialist values in Poland" and cooperation with "progressive" youth organizations like the Prague-based International Union of Students (IUS) and the Soviet Komsomol (Young Communist League).

The founding conference of the ZSP appealed to all students to join the new union, stressing that its future image would depend on the membership. But the strong party ghost is unlikely to attract the bulk of the Polish student body, which walked out of the SZSP in autumn 1980 and founded the now-banned Solidarity-type Independent Students Association (NZS).

The founding conference of the ZSP took place against a background of renewed student unrest in Poland. All teaching at Torun University had been suspended for a week, following what were officially described as hooligan excesses" in one of the halls of residence.

At Warsaw University, the psychology department has been closed until further notice, pending a full investigation into the stoppages there on the Solidarity day of action. The Communist Party daily, *Trybuna Ludu*, which regularly plays down the size of demonstrations, had admitted that between 1,000 and 2,000 Warsaw students took part.

A protest letter has been sent from Cambridge University's department of experimental psychology to the Polish minister Mr Benon Miszczuk denouncing the closure as "a gross infringement of academic freedom".

Chinese to double student numbers

from Jane Marshall

PEKING

China has set out a five-point plan to double the number of college students by 1990, according to an interview with the education vice-minister Huang Xinbai, published in the official *People's Daily* newspaper.

The aim of the plan is to increase full-time regular college enrolments during the 1980s from 280,000 students in 1980 to 400,000 by 1985 and to 600,000 by 1990.

Emphasis on increasing numbers in vocational colleges for workers and peasants, and correspondence, radio and television colleges will swell the numbers in higher education in China from 1.3 million in 1985 to two million in 1990 – about double the present number. The number of postgraduates will rise from 11,000 to 20,000 by 1985.

Mr Huang spelled out the five points which he said should enable the authorities to achieve these targets:

- Establishment of new colleges and universities, and the addition of new departments and specialities to existing ones.
- Better use of existing facilities to accommodate more students – for example, enrolling more off-campus students to compensate for the shortage of dormitories and encouraging suburban universities to open more accessible branches in city centres.
- Setting up vocational colleges by localities and organizations to supplement the state-financed system.
- Many more vocational colleges for workers and peasants, and coordinated radio, television and correspondence courses.
- Special college courses for training personnel for government departments, business enterprises and other organizations.

China needs more graduates in economics, business management and law, said Mr Huang, and engineering colleges should place more emphasis on light industry and textiles.

Meanwhile, information released by the ministry of education reveals that this year's college intake of 305,000 undergraduates contains a higher percentage of students from rural areas, where four-fifths of the Chinese population live. There, even basic education is inadequate and far from universal.

Peking University reported 20 per cent of their students were from the countryside, double the figure for the past two years.

More students than before are applying for faculties or agriculture, forestry, water conservancy, mining, petroleum and geology.

Rector demands campus crush remedy

by Sarah Jane Evans

The rector of Spain's largest university has called on the new government to earmark money to deal with the problem of student overcrowding.

Complutense University in Madrid has nearly 100,000 students who have demonstrated angrily this term about the lack of facilities.

The first year in the law faculty has been divided into 12 groups of 250 students each and qualified students in the fine arts faculty have been turned away because of the lack of equipment.

The secretary of the fine arts faculty said: "We can't admit them. We don't even have enough easels and the teachers are only contracted to teach for a fixed number of hours each week. They can't do any more for the same money."

In a public statement, Sr Fransisco Bustelo, rector of the university, said matters had reached a critical stage and Spain's 35 universities must take the initiative in demanding changes from the new socialist government.

Student numbers are not projected to reach their peak of 800,000 until 1985–87, but Sr Bustelo wants an increase in government spending now. He has also called for thorough internal changes including better syllabuses, more "rational" admission procedures, improved pastoral care, more efficient administration and "tougher handling" of teachers who fail to fulfil their duties.

The problem of overcrowding has been getting steadily worse in Spanish universities, in spite of the reintroduction of qualifying exams in 1974.

At present students have to pass the exams to the end of the preuniversity course and reach a certain level in the selection exam. Every student who qualifies then has the right to a place in the faculty of their choice at the local university.

Only one faculty – medicine – is allowed to impose a quota. This means biology and chemistry faculties become overcrowded as students turn to them as second choice.

Sr Bustelo picked out three other key deficiencies in the university system. The weaknesses in the technical education system led secondary students to choose the more academic baccalaureate course. This "qualifies them for nothing except unemployment – or universities", he said.

This meant that 180 out of every 10,000 Spanish people were students "in a country which does not provide much in the way of finance for education and is not noted for its scientific or cultural work", Sr Bustelo added.

Spain spent three times less than the EEC average per student and its universities were unequally and illogically distributed, he said.

Sr Bustelo's criticisms of the system are backed up by a new study of university selection published by Zaragoza University.

The Zaragoza research roundly condemns the current selection examinations. First, they are general examinations which do not uncover students capable of excelling in one subject. Second, the researchers say the examinations are not sufficiently discriminating.

Mexicans get 25% pay rise

from Emil Zubryn

CUERNAVACA

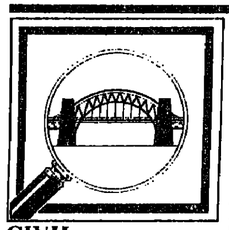
University workers in Mexico have accepted a pay increase of 25 per cent, with an additional 4.5 per cent in fringe benefits, after a 12-day strike. They had demanded a 50 per cent rise.

Disagreement over details of the return to work formula had prolonged the dispute after the Union of National University Workers had agreed to end its walkout. Further unrest is likely when the annual contract revisions for Mexican workers in general come up in the new year.

The strike cost the university more than a billion pesos (£8.7m). The dean said the eight school days lost because of the walkout would be made up through extra efforts by students and teachers with additional class work. More than 370,000 staff and students were affected by the strike, which stopped all research and teaching.

A *THES* survey discovers how academics in four disciplines regard the

A snapshot of current prejudices about quality



CIVIL ENGINEERING

The predominance of Imperial College in research in civil engineering, and of Cambridge in teaching seems to be beyond question. Manchester's strong third place in the research table will be accepted as just and fair by most, and Bristol's high teaching reputation will also be generally acknowledged.

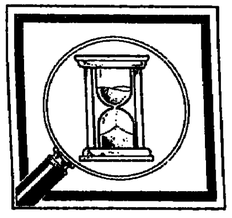
Swansea's high research ranking will surprise some while South-

Research rank

1. Imperial 71
2. Cambridge 39
3. Manchester 35
4. Swansea 19
5. University College London 15
6. Bristol University 12
7. Southampton 7
8. Leeds University 6
9. Birmingham University 5
10. Sheffield University 4
    Queen's, Belfast 4
    Oxford University 4
13. Glasgow 3
14. Durham 2
    Sussex 2
    King's College London 2
    Newcastle University 2
18. Aston 1
    Liverpool University 1
    Queen Mary College 1
    Edinburgh 1

Teaching rank

1. Cambridge 58
2. Bristol University 39
3. Imperial 35
4. Southampton 15
5. Oxford University 13
6. Manchester 9
7. Glasgow 8
8. Newcastle University 5
   Birmingham University 5
   Nottingham 5
   City 5
12. Loughborough 4
    Leeds University 4
    Aston 4
15. University College London 3
    Bath 3
17. Queen's, Belfast 2
    Swansea 2
    Edinburgh 2
    Durham 2
    UMIST 2
    Strathclyde 2
23. Liverpool University 1
    Surrey 1
    Hatfield Polytechnic 1
    Sheffield University 1



HISTORY

History is a three-horse race between Oxford, Cambridge and London. The actual results of the survey with Oxford just in front followed by Cambridge with London just behind probably reflect with considerable accuracy the conventional wisdom about the "pecking order" in historical scholarship.

In the judgment of heads of history departments these three are far ahead of the rest – which is hardly surprising given the preponderant

Research rank

1. Oxford University 59
2. Cambridge 57
3. London 55
   UCL 14
   LSE 11
   King's 4
   Westfield 4
4. Edinburgh 11
   Manchester 11
6. Glasgow 6
   Birmingham University 6
8. Sussex 5
9. York 4
   Leeds University 4
11. Lancaster 3
    St Andrews 3
    Durham 3
14. UEA 2
    Newcastle University 2
16. Sheffield University 1
    Bristol University 1
    Liverpool University 1
    Warwick 1

Teaching rank

1. Oxford University 48
2. Cambridge 47
3. London 45
   UCL 22
   LSE 7
   Westfield 5
   King's 3
   Bedford 3
4. York 19
5. Manchester 12
6. Edinburgh 11
7. Bristol University 8
8. Birmingham University 4
   Leeds University 4
   Sussex 4
11. Glasgow 3
    Durham 3
    St Andrews 3
14. Exeter 2
15. OU 1
    Liverpool University 1
    Sheffield University 1

number of historians that they contain. Within London first place is taken by University College, while the good showing of the London School of Economics no doubt reflects its strength in social and economic history. Some may be surprised to see Westfield more favoured than Bedford.

Among other universities the strength of York's growing reputation stands out, and the traditionally strong reputations of Edinburgh, Glasgow, and Manchester were easy to predict. Bristol's reputation as a centre of good history teaching outweighs its rather more modest reputation as a centre of historical scholarship.

In the much more sophisticated Halsey survey carried out in 1976 Oxford scored 47.2 per cent of the first choices for best history department, followed by Cambridge with 21 per cent, and Edinburgh and the LSE with 3.7 per cent.

Outside Britain only three departments were mentioned more than once in answer to question three. They were, in order of popularity, Yale, Harvard and Princeton.

Questionnaires were sent to 64 heads of department. Eighteen usable replies were received, a response of 28 per cent.

Pecking orders of relative academic merit nearly always have a strangely schizophrenic quality – they are highly controversial yet usually contain no surprises. Any attempt to rank institutions or departments in order of excellence is routinely denounced as irresponsible and unworkable. But the pecking order that is produced is as routinely criticized for its utter conventionality.

Certainly this survey by *The THES* is likely to suffer from this double jeopardy. It shows that in history three institutions stand head and shoulders above the rest in reputation – Oxford, Cambridge and London; in economics that there are a top four consisting of the London School of Economics, Oxford, Cambridge, and Warwick; that physics is dominated by Cambridge, Oxford, and Imperial College; and that Imperial, Cambridge, and Manchester are top in civil engineering.

The immediate objection to these results is unlikely to be that they are remarkable or surprising, but that they are conservative and conventional. In most of their detail they closely match the much more sophisticated survey carried out by Professor A. H. Halsey of Oxford University in 1976.

So why bother – especially when any attempt to construct a pecking order attracts such automatic odium? There are two main reasons. First, the effective choice is not between having a pecking order and treating all departments or institutions as equal, but between pecking orders in the mind and pecking orders on paper. The former are more insidious because they cannot be effectively challenged.

The latter in contrast serve as the starting point for a public debate. The very question of excellence itself can be pushed and pulled into a new shape. The instruments by which it is measured can be made more accurate and more sophisticated. The rankings themselves can be challenged and revised.

Secondly, measuring quality in higher education cannot be just about means; it must also be about ends. The results count. Over the last few weeks *The THES* has published a series of articles on how quality is assessed in higher education, in the universities through external examining and other forms of peer review and in the polytechnics and colleges through the more formal machinery of external validation, regional scrutiny, and national inspection.

This week's report in contrast offers a snapshot of current prejudices about quality in four disciplines. Perhaps it offers a glimpse of the "hidden agenda" of the quality debate which so powerfully influences the formal agenda which has been described in previous weeks.

Two sets of criticisms have been made by heads of department to whom the questionnaire was sent. The first set suggested that the whole expercise was improper. Some simply felt that they should not sit in judgment on sister departments – not at any rate on paper to third parties. Others suggested that the survey was an invasion of privacy and so impertinent.

Others again saw it as part of an attack on higher education. A joint letter from eight history lecturers in one polytechnic insisted: "The concept 'quality'/'excellence' has a political context . . . We would suggest that it is no concidence that 'quality'/'excellence' – as something that can be measured in order to produce a league table – comes up for discussion at the very time a Conservative government is looking to make extensive cuts in education spending." A university professor in the same discipline also saw the survey as an example of "Thatcherism."

One professor pointed out that in the United States such league tables produced an atmosphere of damaging competitiveness in institutions which by common consent, and perhaps for reasons over which they had not control, could never hope to make it to a high point in the table.

The same professor also disputed the analogy with external examining, at first degree or PhD Level. These did not call for "global judgments on a group of mostly very disparate scholars and teachrs but for quite specific judgments on individuals."

More than one respondent mentioned the effect of the present contraction on comparative quality. A typical comment was "changes can occur very rapidly, particularly at present when posts are being shed altogether and by the retirement, early as well as 'normal' of particular individuals whose contribution to departments may have been substantial if not crucial."

The second set of critics allowed that it was legitimate to try to rank departments in this way but questioned the adequacy of the methods adopted. Some argued that it was unscientific because "best" was left to be defined by the individual respondent. A typical comment was: "My main reservation is that the method adopted seems designed to elevate hearsay and perhaps dated reputation into 'fact'".

Others, particularly in physics and civil engineering, insisted that any ranking of departments must not depend on subjective opinion, but on objective criteria such as the amount of research money attracted per member or staff or the proportion of first class degrees awarded to students.

Others again felt that they did not have sufficient knowledge to give fair answers. This objection applied in particular to the second question which tried to measure excellence in teaching. Many felt that unless they had acted as external examiners they could form no proper view of the quality of teaching in another department.

Another criticism of the survey was that the attempt to rank departments was not sufficiently fine-grained. The top places were bound to go to the big departments, even though within smaller departments there might be better individuals. In non-science disciplines, in particular, which did not require expensive back-up equipment, the individual counted for more than the department.

A final criticism under this second heading was that there were important distinctions within disciplines which could not possibly be reflected properly in such a survey. A university history professor feared that the results would be over-influenced by English history to the neglect of other specialisms. A head of a polytechnic civil engineering department commented: "It is difficult to compare an engineering science course with a 'straight' civil engineering course and with a civil engineering construction course."

In fact this survey had fairly modest ambitions. Its aim was to provide a snapshot of subjective opinions, to capture existing prejudices about the ranking of departments. It could, of course, have been more elaborate but there were three objections to such elaboration. First, newspapers do not have the resources or the expertise to conduct sophisticated research. Second, further quantification would never make such a survey objective; what would be measured would still be subjective opinions dressed in more formal clothes. Thirdly, the rudimentary nature of the survey makes its essential subjectivity plain to everyone.

In any case a more elaborate survey, such as that conducted by Professor Halsey in 1976, would almost certainly have produced very similar results. That, in a sense, is the problem. Everyone knows, or think they know, which are the best departments and institutions. Yet many shrink from an explicit expression of their knowledge, perhaps because it would open up a worrying debate about the criteria of merit.

For the criteria of merit that still seem to prevail in British higher education give an impression of conventionality, rigidity, narrowness, and conservatism that is not always easy to square with the social, economic and broader intellectual ambitions which the system has accumulated over the past 30 years. The criteria are clearly grossly inappropriate for judging the polytechnics and colleges. So a glimpse of higher education's hidden agenda can be certainly revealing, possibly depressing, and hopefully stimulating.

Peter Scott

The questions we asked – and how we asked them

This survey is based on a simple questionnaire sent to every head of department in history, physics, economics and civil engineering in those universities and polytechnics which offered the subject. Constituent colleges of the University of Wales and the schools of London University were treated as separate universities.

There were only three questions. The first was "Which in your view are the five best departments in British higher education in your subject, bearing in mind mainly the output and quality of their research?".

The second was similar – "Which in your view are the five best departments in your subject in British higher education, bearing in mind mainly the quality of their undergraduate students (if different from above)?".

The first was designed to eliminate a ranking based on research and the second on teaching. No attempt was made to define "best". Such a definition was deliberately left to the subjective interpretations of those who filled in the questionnaire.

The third question was "Excluding your present department, in which department would you most like to hold an academic post?" and respondents were asked to indicate an institution in Britain and in the rest of the world. There was also a space for comments, qualifications, and objections.

The response rates are reported together with the results of each subject survey. The tables were constructed by awarding five points for a first place, four for a second, three for a third, two for a fourth, and one for a fifth.

standing of their subjects

ECONOMICS

The London School of Economics lives up to its (shortened) title by so clearly be judged by heads of economics departments as the top institution in terms of research, although Cambridge is seen as superior in teaching.

Oxford's second place in research ranking may surprise some who would have expected Cambridge to be judged superior. Warwick completes the top four institutions which are regarded as almost in a different league from other universities if the measure of success is to be the quality of research.

If the quality of teaching is the main criterion there is a smoother gradient, with Bristol regarded highly as a centre of good economics teaching so confirming its traditional reputation as a good institution for undergraduates.

The other institutions well regarded in terms of both teaching and research, Manchester, Southampton, Essex, York, Queen Mary College, will cause few surprises. Towards the bottom the table displays a lack of consensus about the solid departments in this discipline.

For heads of economics departments the most desirable non-British universities are the Massachusetts Institute of Technology, Yale and Berkeley, Harvard, Stanford and Princeton in that order. The Australian National University is the only non-American institution to receive a vote.

In the Halsey survey six years ago LSE was also a decisive first with 49.8 per cent, Cambridge (20.3 per cent) and Oxford. (7 per cent) were second and third. Next came Edinburgh on 3 per cent and Warwick on 2.2 per cent.

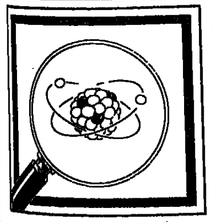
Questionnaires were sent to 66 heads of departments in universities, university colleges, and relevant polytechnics. Twenty-nine usable replies were received, a response of 44 per cent.

Research rank

1. LSE 114
2. Oxford University 98
3. Cambridge 70
4. Warwick 48
5. Manchester 18
6. Essex 14
7. Southampton 10
8. York 9
9. Queen Mary College 7
   Birkbeck 7
11. Edinburgh 6
    Sussex 6
13. Bristol University 5
    Liverpool University 5
15. Nottingham 3
    Aberdeen 3
    Leicester University 3
18. Reading 2
19. Newcastle University 1
    Hull 1

Teaching rank

1. Cambridge 92
2. LSE 74
3. Oxford University 68
4. Bristol University 30
5. Warwick 28
6. Essex 11
7. Manchester 10
8. Queen Mary College 8
9. Southampton 7
   Birmingham University 7
11. York 5
12. Durham 4
13. Leicester University 3
    Nottingham 3
15. Sussex 2
16. Kent 1
    Surrey 1
    University College London 1



PHYSICS

Five institutions count in physics, and in this order – Cambridge, Oxford, Imperial College, Bristol and Manchester. A few eyebrows may be raised by Oxford being placed slightly above Imperial in both research and teaching, but there will be no question of which university should be number one.

Research rank

1. Cambridge 83
2. Oxford University 53
3. Imperial 48
4. Bristol University 30
5. Manchester 25
6. Edinburgh 14
   Birmingham University 14
8. Glasgow 6
   Leicester University 5
   Heriot-Watt 5
11. East Anglia 4
    Sussex 4
13. Leeds University 3
    UMIST 3
    Durham 3
    University College London 3
17. Southampton 2
    St. Andrews 2
19. Liverpool University 1
    Dundee 1
    Strathclyde 1

Beneath the top four come a group of universities with well established reputations in the subject – Edinburgh, Birmingham, and Glasgow. There also seems to be reasonable agreement about which other institutions deserve a mention, although the position of University College London looks on the low side.

In physics most desirable non-British institution is the University of California at Berkeley, followed by MIT and Harvard. No non-American university was mentioned.

In the 1976 Halsey survey the order was very similar. Cambridge led with 43.9 per cent of first votes, followed by Oxford with 14.7 per cent and Imperial with 13.7 per cent almost equal. Bristol scored 4.1 per cent and Birmingham and University College London 2.5 per cent apiece.

Questionnaires were sent to 67 heads of departments in universities, university colleges, and polytechnics (where there were problems of definition). Twenty-one usable replies were received, a response rate of 32 per cent.

Teaching rank

1. Cambridge 85
2. Oxford University 64
3. Imperial 38
4. Bristol University 37
5. Manchester 16
6. Birmingham University 12
7. Edinburgh 8
8. Glasgow 6
9. St Andrews 5
10. Durham 4
11. Queen's, Belfast 2
    University College London 2
    Heriot-Watt 2
14. Liverpool University 1
    York 1
    Leicester University 1
    Aberdeen 1

US leagues produce halo effect

WASHINGTON

Academic league tables which rank the quality of different universities and courses have been an important – and controversial – part of the American higher education scene for at least two decades.

Institutions ranked near the top of the tables give the results wide publicity and the league tables play a big part in the battle between universities striving to recruit the best staff and postgraduate students.

But the drawing up of league tables has also been widely criticized as a crude popularity contest which ignores the subtle graduations of academic quality and distorts choices

Much criticism has dwelled on the methods used to compile the tables. Until recently, even the more systematic surveys have consisted mainly of a survey of the opinions of a sample of academics.

The first major survey, in 1959, merely invited departmental heads at 25 leading universities to assess the reputations of other departments. Later studies by Cartter (1966) and Roose and Andersen (1970), sponsored by the American Council on Education, surveyed a much bigger group of academic peers but used essentially the same method.

Critics say reputational surveys are misleading for two reasons. Academics' perceptions about the quality of other departments in their field tend to be several years out of date, and there is a clear institutional "halo effect"; academics let the overall reputation of a famous university influence their assessment.

In addition, some observers claim the surveys have a damaging impact on the universities involved. The rich get richer while universities lower down the league tables are encouraged to conform.

In recent years the criticisms levelled at earlier reputational surveys have led to the adoption of much more sophisticated survey techniques in which the emphasis has been on the assessment of quality without the compilation of tables.

This autumn, for example, the National Academy of Sciences has been releasing the results of a vast survey of the quality of postgraduate education in maths and physics, the humanities, engineering, the biological sciences and social sciences.

Unlike earlier surveys, the NAS study uses reputational surveys as only one measure of the quality of individual departments. Other factors include the size of libraries; the success of graduates in obtaining academic jobs and the length of time taken to complete doctorates.

Even more unusual is a decision by the NAS to discourage the compilation of league tables. In their place, the reports merely name each postgraduate department and report its score on a dozen different indices.

Tables compiled in this way show that a handful of elite institutions still dominate the topography of academic prestige in the United States. A selection of disciplines follows with top institutions listed in order of reputation and a score on a scale from 0 to 5 in which 0 means not good enough for doctorate education and 5 means distinguished.

Classics: Harvard 4.9; Berkeley 4.6; Yale 4.4; Princeton 4.1; Michigan-Ann Arbor 4.1.

English: Yale 4.9; Berkeley 4.7; Virginia: 4.6; Harvard 4.5; Chicago and Columbia 4.4.

Electrical Engineering: MIT 4.9; Berkeley 4.8; Stanford 4.8; Illinois 4.6; UCLA 4.1.

Civil Engineering: Berkeley 4.8; MIT 4.7; Caltech 4.5; Illinois 4.6; Texas 4.2.

Physics: Berkeley, Caltech, Harvard and Princeton 4.9; MIT 4.8.

Mathematics: Berkeley, Princeton and MIT 4.9; Chicago and Harvard 4.8.

Philosophy: Harvard and Princeton 4.7; Pittsburgh 4.6; Berkeley 4.5.

Computer Science: Stanford 5; MIT 4.9; Carnegie-Mellon 4.8; Berkeley 4.5; Cornell 4.3.

Peter David

times, the
circumstance 8 n.
present time 121 n.
time-saving
theology 973 n.
higher education
education 534 n.
supplement
increment 36 n.
augment 36 vb.
adjunct 40 n.
make complete 54 vb.

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The housing shortage gets worse as grants fail to keep up with inflation. Is there a remedy?

At the mercy of the landlord

Tim Bogan argues that students are particularly vulnerable to the vagaries of the housing market

Finding somewhere to live has long been a problem for Britain's students. Annual warnings of accommodation crises which seldom last long have led many people to think the students were crying wolf. But a decline in privately rented housing and high rents are producing real difficulties especially in polytechnics and colleges, which often have few places in halls of residence.

Nowhere is the problem more acute than in London. By last month the accommodation officer at London University was able to report that all her students had found places to live, but the capital's polytechnics are still experiencing difficulties.

At least one student from the Polytechnic of North London has abandoned her course and returned home after failing to find a place to live. Jane Greene has written to the polytechnic's director about the problems which face students who come to the polytechnic.

Students from the Polytechnic of Central London and other colleges also report a continuing shortage of accommodation. And as a students' union representative said, many students who have found housing have had to settle for rooms with appalling conditions at high rents.

While students always have difficulty finding accommodation at the beginning of the academic year, this year, at some colleges, the crisis appears to be continuing as the first term draws to a close.

Yet university students are relatively lucky. This is largely because halls of residence are provided for about half of them. Just a sixth of polytechnic students live in college owned accommodation. At some polytechnics the figure is even lower. North East London Polytechnic has no housing of its own available to students at all.

More students live in property belonging to private landlords than in any other sector. The decline of this form of housing has been well documented. Shelter, which campaigns nationally for the homeless, has described this decline as "relentless the length and breadth of the country".

According to CHAR, the umbrella organization for groups seeking to aid the single homeless, the decline in the private rented sector is only half the story. They say that "single person households" are increasing. This is borne out by the recently published 1981 census results. There are more broken marriages, old people outliving their partners, young people encouraged to leave home to look for work and people who simply choose not to live in families. All these groups are in the same position as students, having to rely primarily on the declining number of private rented properties.

The National Union of Students does not see the encouragement of private landlords as a solution to their members' problem. In their 1982 report on housing, they say there is no guarantee that incentives to landlords would bring more property on to the market. They also agree with SHAC, another organization which deals with the problems of homeless people, that in many respects, particularly security and maintenance, the privately rented sector is generally inferior to the public sector. They say it should be allowed to decline.

NUS does not see the building of new halls of residence as particularly desirable either. While they acknowledge the need for such provision, particularly for students with special needs, they say it is divisive, separating students from the community.

They would like to see an increase in local authority housing available to students. At the moment such provision differs vastly from area to area. In Manchester 1,200 students are housed in some of the local authorities, "hard to let" desk access flats. Newcastle and Nottingham also house students in this way. In London, however, public sector housing tends to be available to students only within a variety of special schemes for single people in general. The demand for these is intense. Nevertheless, it is unlikely that the provision will grow to meet it.

Most of the schemes utilize "hard to let" properties but this is becoming an increasingly inaccurate term. Sales of council houses and absence of new property, mean local authorities are beginning to be forced to let to homeless families dwellings which they previously considered unsuitable.

NUS says students looking for somewhere to live are particularly vulnerable. Their limited income and transient nature hampers them in a fiercely competitive market. Without a secure place to live their studies suffer. If NUS's findings are correct, the main opportunity for improvement lies in the public sector. However, as they point out, this can only be achieved if more resources are made available to local authorities to halt the decline in their housing stocks.

Joseph McAllister of Glasgow College of Technology shows how many floors in the Red Road multi-storey flats are set aside for students.

Olga Wojtas looks at a council scheme to house students on the higher floors of a tower block

The Red Road multi-storey flats in Glasgow are generally admitted to have been one of the city's less successful housing projects.

The 31-storey blocks, built in the mid 1960s, are the highest in Glasgow, and reputedly the highest in Europe, although this claim may stem from the Glaswegians' Texas syndrome.

What is not in dispute is that the council tenants felt the flats were too high. The Red Road blocks were built for families, each flat having three bedrooms, but multi-storeys and a concentration of children proved a disastrous mix, particularly as the lifts were often inoperable because of vandalism.

Matters came to a head a few years ago after a fire broke out in one block, "fire" being widely believed to be a euphemism for arson.

Tenants insisted on moving out of the block, and Glasgow District Council was left to examine alternative uses for the building. The council had by then decided as policy to increase the access of single people to council housing.

"We were also aware of the tremendous pressure on students trying to find accommodation," says Councillor John Kernaghan, convener of the housing committee. Asked why the council should involve itself with student accommodation problems, he says: "We see our responsibility as a housing authority is to have an overview of all housing within the community, whether it's private or public. We draw no distinction between people wanting a council house. Students have housing needs like other people."

It is a little unkind to add the obvious comment that students could also be used to fill the empty space left by ordinary tenents.

For while that is the case. Red Road is undoubtedly a success story, and the National Union of Students has encouraged other authorities to follow Glasgow District Council.

The council held a series of meetings with accommodation officers and student representatives. "The students weren't happy at being the only people in the block, because they felt that was highly artificial." says John Kernaghan.

Students first moved into the block just over a year ago, being housed in 52 flats between the fourteenth and twenty-seventh floors. Below are ordinary tenants, including families; above are business executives. The block is used by 156 students from Glasgow and Strathclyde Universities, Jordanhill College of Education, Glasgow College of Technology and a number of smaller institutions.

The district council has spent around a million pounds on renovating the block, most importantly, on stalling an effective security system.

Each flat has an entryphone, and between 5pm and 9am, there is a security officer at the main entrance, with an external television camera monitoring the roadway outside. There is no vandalism now.

The student and executive flats have also been furnished by the council, at a cost of £100,000, and the respective rents take account of this. Tenants pay £122 monthly for an unfurnished flat, while the three-bedroomed student flats are £160 and the executive flats £164.

The student flats compare well with halls of residence. Each has a kitchen with fridge and cooker, a sitting room with a comfortable three-piece suite and coffee table, two storage heaters, and each bedroom has a desk and book-shelves. The higher flats have magnificent views over the city.

Joe McAllister, a Glasgow College of Technology student just beginning his second year in the flats, says: "It's the best thing in Glasgow that we have for students. We have a communal floor which everyone uses, not just the students. It has a television, and we have a video at the weekend, organized by an association for the block." The communal floor also boasts a pool table, table tennis, and a dartboard.

Graham Winters, president of Glasgow College's students association, feels however that the communal floor has not reached its full potential, and has tentatively suggested that individual student unions contribute funds for more facilities.

He is enthusiastic about the flats. "For a college like ours, which has no halls of residence, the accommodation is particularly suitable for first-year students. I think multi-storeys are almost ideal for single adults, and with the security system there's no danger of break-ins or vandalism.

The only major criticism I can make is that the rent is charged on the flat as a whole, and if one student moves out, the others are liable. It's my aim to try for some kind of renegotiation."

"We're not doing enough in this area, but at least we've made a start. Sometimes in local government there isn't enough lateral thinking. People just say it's terrible that there's a student housing problem and don't do anything. We've taken a practical approach," says John Kernaghan.

David Jobbins describes the background to the grants issue, to be debated at the NUS conference which opens today

New grants too low to live on say students

Opposition MPs have accused ministers of cheating Britain's students by holding the increase in grants to only 4 per cent.

The basis of the charge is an undertaking from the previous Secretary of State for Education, Mr Mark Carlisle, shortly before he was replaced by Sir Keith Joseph.

Mr Carlisle wrote to the then president of the National Union of Students on June 15 1981, after complaints at the erosion of student support by inflation: "If, as you suggest, these estimates result in an underestimate of the true costs of students, because of rises in hall fees and other student costs, then I would hope that we could take that into account when we come to assess students' grant for the academic year 1982/83."

The Secretary of State's hopes were not fulfilled. Early in December, the Chancellor of the Exchequer, Sir Geoffrey Howe, said the 1982/83 awards would rise by just 4 per cent.

This announcement antagonized even the vice chancellors, who immediately lodged a protest at the lack of consultation and added: "On the basis of information provided by the universities it is estimated that in the current year (1981/82) the grant is already 18 per cent below the level which would enable students to meet the cost of ordinary maintenance including the economic cost of board and lodging."

The vice chancellors predicted that the 4 per cent increase – then 6 per cent below the Government's inflation estimate for the coming year – would lead to financial hardship.

But the protests produced no softening of the Government's attitude, which was further affirmed by the announcement last month that the grant increase for 1983/84 would also be held to 4 per cent.

NUS's response was to point out that the 24 pence a day "increase" represented a 2 per cent drop in the real value of the grant to 79 per cent of its 1962 value. By September next year the value will have fallen by 12 per cent since the Conservatives came into power in 1979.

In fact 1978 was the last year in which the increase was enough to cover inflation – and there is general acceptance of the claim that student costs, especially housing and books have been rising even faster than other costs.

But, as Labour's higher education spokesman, Mr Phillip Whitehead, and Liberal leader, Mr David Steel, pointed out in the Commons last week, there is no sign of Mr Carlisle's "hope" being implemented by his successors at the Department of Education and Science.

In that June 15 letter, Mr Carlisle qualified his words by adding: "Students cannot expect to be exempt from cuts when so many other members of the community have already accepted them."

Mr Steel, who is rector of Edinburgh University, detects among students a willingness to share the sacrifices. But he feels they are being expected to accept an excessive reduction in standards of living compared with other members of society. There is, he claims a parallel with the National Health Service workers.

"In both cases groups of people in our society who are less well off than others are being squeezed under the alleged non-incomes policy of the Government," he told the Commons.

Mr Whitehead produces another interesting comparison with another group often used as a reference point for compassion – the old age pensioners.

He says that a net gain of something like 3 per cent had been likely for pensioners while students face a net loss of 2.8 per cent.

Mr William Waldegrave, under secretary for higher education, says that the drop in value is less than had been feared when the 1982/83 grant was announced. Then the prediction for inflation had been 10 per cent – leading to a 6 per cent fall in 12 months. Now, with inflation around 7 per cent, it would be less.

Conservative MPs who were privately unhappy at the award of only 4 per cent when inflation was predicted to be much higher with few signs of it falling are now much more sanguine at the announcement for next year.

Students have made their sacrifice, they believe and 4 per cent for 1982/83 will prove fair and consistent both with inflation then and with the level of wage settlements pay two pay rounds ahead.

If, as predicted, inflation continues to fall, the gap between the rate of inflation and the 1983/84 award will be narrowed. But as Mr Steel pointed out in the Commons, there is no attempt to recompense students for the fall in value this year.

But the key element in the fall of inflation – the reduction of the mortgage rate – affects few students, as Mr Steel indicated.

NUS is to spend £54,000 on a survey of student spending patterns to try to establish its case.

President Mr Neil Stewart says: "It is a disgrace and total negligence that ministers allow over £700m a year to be spent on grants without having any direct information on what the real needs of students are".

A major area of concern over the Government's plans to tinker with the awards system is the issue of travel expenses. Details of the changes have yet to be worked out but they follow the line of the Rayner report which concluded that the existing way of paying expenses was time-consuming.

But the NUS and Labour MPs fear proposals ostensibly designed to improve efficiency and cuts costs may be used by ministers to achieve by stealth a cut in the number of students who study away from home.

Mr Waldegrave denies that the fall in the value of the grant has been as "catastropic" as alleged by Opposition MPs.

His key defence in the Commons was : "In the interests of securing a stable economy for the well-being of all, we saw no reason why students, who are still the best treated of their age group, should be wholly exempted from the pressures of public expenditure.

He was able to detail a number of improvements in the grants system – the doubling of the allowance for disabled students, the easing of restrictions on refugees and those seeking asylum in the UK.

But these are unlikely to soften the blows perceived by delegates to this weekend's NUS conference in Margate, where the grants issue is bound to be near the top of the agenda.

Science and industry mix put to the test

Britain's science park bandwagon continues to gather speed, but some are beginning to question if it can stay on the rails. With 10 parks already in existence and 30 or 40 more being planned competition is growing for the high technology companies these ventures are supposed to attract.

So it is important for planners, investors and prospective tenants to have a clear idea of what the park is meant to do, and of the best mix of ingredients for a successful scientific and industrial community.

Local authorities, universities and colleges and the Department of Industry all remain enthusiastic about future prospects for science parks. But answers to many of the basic questions remain unclear, as shown at the first national conference on the subject, organized last month by the Town and Country Planning Association.

Part of the confusion arises from the need to distinguish "real" science parks from marketing gimmicks. As Mr Edward Cunningham of the Scottish Development Agency said: "Anyone with a spare piece of industrial land calls it a science park, often with astonishing pretensions."

A further problem is that the luxuriant growth of scientific real estate in Britain has produced a cluster of related labels without agreed definitions. The Scottish Development Agency is developing two science parks, a research park, a hi-tech park and a specialist park for the food processing industry.

Beyond definitions, there are disputes over the significance of university links, the need for specialist services, the importance of location and landscaping and the most important management tasks. None of these questions was resolved at the conference, but a good deal of information emerged to feed into future discussion.

Mr Nick Segal of Job Creation Ltd suggested there were three basic ingredients for a science park worthy of the name: low density environment and a good location: a centre of advanced research and development; and academic-industrial collaboration. But he pointed out that no real schemes conformed to all three guidelines.

Every generalization seemed to make a counter-example. Attractive landscaping was essential to attract highly mobile employees with specialized skills, according to some. But the celebrated Route 128 development in Boston grew up in a quite ordinary suburban industrial area.

Science parks were preeminently centres for research and development in some versions, but the massive Research Triangle Park in North Carolina quickly accommodated IBM's wish to set up production on site as well. And so it went on.

In some cases, as Mr Segal and others showed, the right combination of venture capital, environment and being close to a concentration of industrial or academic technologists could lead spontaneously to a science park. But close study suggested that each of these was unique. In Stanford's Silicon Valley, whole families of small companies were started by refugees from large corporations, who protected themselves against the new competition by buying equity in their offspring.

In Britain, the so-called Software Valley, which follows the Thames and the M4 out of West London, provides a home for numerous microelectronics companies, many attracted by the Government-backed concern Inmos situated further west.

So where does this leave institutions, especially universities, who decide to try and promote the same phenomenon artificially? Here, there was a double-edged consensus among those at the conference.

Most agreed that the chief appeal of a university-based science park should lie in Mr Segal's third area – the industrial-academic collaboration. But it was also widely observed that fruitful interaction between universities and business tenants was almost universally absent from British science parks.

This may be partly due to the oft-lamented mutual distrust between university researchers and industry. Or, as Mr Fred Roche, the former chief executive of Milton Keynes, suggested, there may not be "an abundance of bright, entrepreneurially-minded academics straining at the leash" inside the university.

In this crucial area, too, contradictions abound. In the Cambridge science park, Britain's oldest, only a few tenants have active links with university research, while many other firms have grown up around Cambridge and based their research and development very closely on university work. There are even some British sites where major firms have closer links with a far distant university than with the institution next door.

Even success in forging outside links can produce problems for the university. If there is too much interaction with industry, university researchers may neglect their academic duties.

Students may find it difficult to track down tutors embroiled in business dealings and college administrators may be restricted to the non-business classes for their committee selections. On the other hand, the industrially-inclined academics can become better teachers when they impart lessons learned in the outside world.

In Britain, though, science park keepers are still preoccupied with encouraging such links rather than dealing with the problems they may create. The key variable is management quality. Producing an environment where businessmen and women, academic researchers and more demanding hybrid species can thrive needs meticulous attention to detail, attention which has been lacking so far in this country, according to Mr Segal.

Productive links between university and company laboratories only survive with sustained effort on both sides, and few managers really perceive the scope of the work needed to achieve this. Shared canteen or sports facilities are not enough. They must be supplemented by joint seminars, presentations and consultancies – between host university and companies and between companies themselves.

This will not guarantee success, for as Mr Kenneth Baker, Minister for Information Technology, said: "One almost wants an anthropologist to examine how the synergy between academics and industry can be set up." But getting the basics right must be the first priority if a new scheme is to stand any chance of reproducing the successes of the American showpieces.

All this also means that choosing the right mix of tenants is vital. The industries everyone wants to attract are electronics, biotechnology, medical products, scientific instruments and sophisticated machine tools. But not every park will be able to cater for all these.

Indeed, some universities with well-developed facilities in a particular subject may decide to promote industrial development founded on a single field, as with Durham's new materials science centre.

Equally important is catering for the right sort of company in terms of size and commercial development. As there are few giant corporations to go round, and capturing one makes the park vulnerable to future withdrawal, most managers will go for a mix of small and medium size companies to start with.

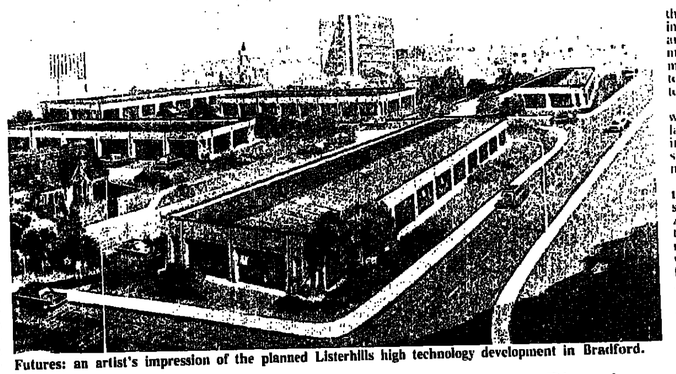
Medium-sized companies may well want lavishly appointed premises with sophisticated services, and these are still hard to come by. Mr Nick Owen of the surveyors Herring Son and Drew said, too many people still thought a high technology building was "a warehouse with a red stripe on it". Small firms just starting out, on the other hand, might be content with more spartan accommodation with lower costs.

Alternatively, they might opt for space in a new type of specially-designed building favoured by several of the more promising British ventures. Incubator units, more greenhouse than park, are planned at Aston, Warwick, Leeds and Bradford universities.

The incubator at Warwick, opening next October, will have common reception, secretarial and telex services and direct access to university computer and design facilities.

Mr David Rowe, director of the Warwick park, has looked closely at similar efforts elsewhere, and concluded that academic links are the key to success. Like his counterpart and local rival at Aston, Mr Ian Herman, he knows it will be many years before the final verdict is made on British science parks. "High technology is not a quick fix." Mr Herman insisted. Investors must be reminded that it could take 20 or 30 years to fill a green field site.

At the moment, the main distinguishing feature of our science parks is the lushness of the grass. Decisions taken in the next few years will determine how much of the turf is covered with the innovative laboratories and production units the Department of Industry hopes will soon appear.



Futures: an artist's impression of the planned Listerhills high technology development in Bradford.

Jon Turney reports on the Town and Country Planning Association's first national conference on science parks

Karen Gold analyses a new national survey which reveals a large hidden demand for adult and continuing education classes.

Probing hidden depths

Anyone still arguing that the case for continuing education remains to be proved had better take cover. A barrage of statistics coming their way shows that more than twice the number of adults already taking classes would like to do so.

The figures are contained in *Adults: their educational experience and needs*, a report from the Advisory Council for Adult and Continuing Education. It is the first national survey of the subject in England and Wales for 10 years. According to Naomi McIntosh the research director, an ACACE member and now a Channel 4 senior commissioning editor, it is the first ever to use the concept of continuing education as including all post-initial full-time education.

In 130 pages it analyses 2,460 people's responses to a survey commissioned by ACACE, asking about educational experience, attitudes and hopes of 17–75-year-olds; details of social status, political affiliations, and leisure activities, and weighted to form a nationally representative sample.

The survey was carried out in early 1980; a fact important to remember since the widespread cuts in local authority classes and higher unemployment have occurred meanwhile and may well have affected the findings. Nevertheless its most exciting discovery is a previously unknown group: 35 per cent of the population, which would like to participate in continuing education *in addition* to the 22 per cent who already (in the last three years) do so.

The 35 per cent is identified in a section of the report which divides the interviewees into eight groups according to their educational history and hopes. Effectively it creates a sliding scale, from those without any post-initial education, who do not wish they had taken a course and do not want to in the future, through to those who had post-initial education, who are currently doing more and who want more in the future.

The two key groups are those who have not participated in the past but wish they had done so, and want to do so in the future (Group A); and those who have participated before, are not doing so now but want to again (Group B).

Group A comprises 15 per cent of the population; Group B 20 per cent. Apart from their enthusiasm, the most important thing about them is their differences. Group A is almost equally divided in sex and age, more than two thirds belong to classes C2 and D, rarely use public libraries, have few qualifications and are more interested in qualifications and job skills than furthering an interest.

Group B, which has adult education experience, contains more men than women, many more AB and C1 class participants, are more likely to have O and A levels and much keener to pursue an interest in classes only positively vocational subject to appear in the top five. Far greater interest was shown in foreign languages, domestic science (men 2 per cent; women 33 per cent) and art/painting/sculpture/pottery.

In general around 70 per cent of the population say education is important to them either for vocational or personal reasons. Similarly almost 90 per cent approved of some kind of educational entitlement for adults. But only half thought they were likely to use such an entitlement. Expecrations were migh higher among younger people, among classes AB and C1 and – perhaps surprisingly – among women.

Differences between men and women's experiences and expectations run throughout the report, starting with a fundamental difference in their view of education. Significantly more women than men consider participating in education for cultural and personal reasons; men want education to help them make their way in the world.

"No one can afford to be complacent about the degree of knowledge of opportunities for education shown by adults, and their feelings about the accessibility – geographical, educational and financial – of such provision" the report says. "It is clear however that latent demand for adult and continuing education exists and could be stimulated by appropriate provision."

Productive links between universities and company laboratories only survive with sustained effort on both sides, and few managers really perceive the scope of the work needed to achieve this. Shared canteen or sports facilities are not enough. They must be supplemented by joint seminars, presentations and consultancies – between host university and companies and between companies themselves.

This will not guarantee success, for as Mr Kenneth Baker, Minister for Information Technology, said: "One almost wants an anthropologist to examine how the synergy between academics and industry can be set up." But getting the basics right must be the first priority if a new scheme

cent of the population, which rule out the possibility of future education. By far the largest of these groups is the one at the bottom of the scale: people who have no regrets as well as no hopes for adult education.

It contains significantly more women than men (59 per cent: 41 per cent), predominantly older people (30 per cent aged 65–75), almost entirely social classes C2–D and E, and mainly Labour voters, which could be a headache for those wanting to direct Labour Party education policy towards continuing education.

More hopeful is a rather wistful statistic. Only half the population of England and Wales do any kind of post-initial education, according to the report. The fact that 46 per cent of men and women – with almost no difference between them – wish they had taken a course in the past seems sadly ironic.

Middle-nged people in particular wish they could start again differently, with young and AB class women regretting not having taken a full-time course, men a part-time one. They would have taken a mainly vocational course – engineering, nursing, secretarial and craft skills.

Yet there is hope for liberal adult education. When people were asked what subjects they had not previously studied and would like to learn about, engineering/science was the

Religious roots

Peter R. Ackroyd on how our perceptions of the past affect the relationship between the contemporary world and religious thought

The past, and nothing we can do will alter this, recedes. In spite of the fact that in some respects we now know more about our past than has ever been known before, as we open up the more distant reaches of human existence and the even earlier stages of other forms of life, the distance between our contemporary world and our past grows ever greater. Our perspective, as we look back, may enable us to make more adequate assessments of events which were viewed more narrowly by those involved in them; but the very detachment which may make this possible emphasizes a growing remoteness. And, in any case, we are aware, directly from our own experience of recollection, that memory and tradition are selective: summers were not always so bright as our memories of childhood suggest, nor winters so crisp and snowy. Distance in time lends enchantment.

Religion, like other central elements of human experience, is susceptible to the passage of time. Even a supposedly new religion builds upon the past, and in so far as it claims to attach itself to some specific person or event, it immediately begins that process of distancing from its origins which poses questions. There are religions which would claim no specific attachment to past events; but they, like many other institutions, are as rooted in tradition as those which claim a specific and historic moment of origin.

The problem with which I am here concerned is: how can there be a relationship between our contemporary world and religious thought which, while claiming relevance and meaning now, has origins attached to a remote past, to writings on which contemporary practice and decision are held to be based?

Over the past generation or so it has sometimes been claimed that there has been a marked reaction against those areas of study which involve the past and which are therefore deemed to be outmoded; that the pressures have been to move into other areas which, by reason of their particular practical or other application, can have an immediate impact on present-day life. The move away from religion, attested in statistics about observance and adherence to particular religious traditions, is held to be a consequence of such an impatience with a system, a philosophy of life, a world view, which is inevitably tied to the past. But the matter is not as simple as that. It is easy to make generalized statements on trends and their causes, where the real explanations may be more complex and varied. In the same period, it is possible to observe also some waning of interest in the scientific areas of thought and study. The great growth in social studies has been understood as attributable to a concern with man and his condition and an impatience with a science and technology supposed to be directly responsible for the major disasters of this present century.

The focus on archaeology, symbolized by the popularity of many television series, itself shows a shift to concern for man's past; it is perhaps symptomatic of a desire to know who we are, by studying where we have come from.

For traditional religious systems such as Judaism and Christianity the receding past presents evident problems. It is true that a study of the history of the development and continual modification of both the Jewish and the Christian traditions shows two features relevant to this discussion. On the one hand, we may observe that these religious systems correspond in large measure to the life of the society in which at any given time they exist. This is not to ignore the fact that they have themselves contributed considerably to those societies; but there has been a continual interchange between religion and society which does not permit a clear distinction to be made, as some religious adherents would wish it to be made, between the two. On the other hand, we may recognize that such an interaction between religion and society has made possible the continuance of a live religious tradition as distinct from one which exists in isolation from the world.

The evidence of adaptability through their history of major religious traditions can be used as an argument in support of the supposition that what has once been possible is still possible in contemporary life.

There is, however, another factor in the radically changed attitudes towards the foundation documents of both Judaism and Christianity. The change was initiated two or three centuries back, or even earlier, but the full impact is only felt now. Much of the earlier adaptability, with which went a strong belief in the adherence to a central religious tradition, was possible because the foundation documents, the scriptures, could be interpreted at a single level, with a confidence in their truth and sufficiency that was unchallenged or virtually so.

The changes have come from two factors. One is the new knowledge of the past which has provided an increasingly complex context for the scriptures themselves. The long familiar worlds of Greece and Rome which form an important element in that context have come to be understood much more fully, though with many unresolved problems; more significantly, the whole cultural world of the ancient near east, with its prehistory dating back long before historically definable biblical events, has been opened up and continues to be opened up with new discoveries shedding a light undreamed of in the last century. Some of these – Jericho and Ras Shamra-Ugarit, Qumran and Ebla – have been given sensational treatment and have attracted wide attention; they are not necessarily more significant than the steady and detailed study of texts and sites as they become available, the long slow plod of scholarship by which the detail is less romantically investigated. The other is that the writings of the past, and not only religious writings, are differently handled, in the endeavour to understand how they belonged and functioned within their own context; hence questions arise more urgently about the ways in which they may with propriety be handled in contemporary discussion.

> It is assumed that a biblical statement can be used again in another context.

This means that what used to be possible and acceptable as a means to providing guidance to contemporary problems – the discovery of the relevant text or passage which could be cited as authoritative – is no longer possible at that level. The relationship between historical text and contemporary practice must be seen to be less simple and more open to question. Such a shift has begun to produce a less rigid system, and this change is to be detected in varying degrees throughout both Judaism and Christianity. It is often deplored by those who cherish religious certainty. The label of "liberal theology" has been used as a derogatory term. Moves away from old forms, especially in worship, have been lamented as doctrinally dangerous. Misunderstandings of theological debate – "god is dead", "honest to god", "myth of god incarnate", made into slogans rather than seriously examined – have been thought to suggest a failure of nerve, an abandonment of belief.

For some religious believers, the past does not recede. They are confident that what was once, is now, and "ever shall be"; that that reality is knowable and absolute; and that it remains as precisely applicable to the present as it has always been believed to be. There are bible believers, or their equivalents, in Christianity as also in Judaism and Islam. Their supposition, often articulated, is that it is the bible which is the sole authority; they are often unaware of the part played in that view of authority by particular styles of religious thinking and by particular notable teachers in their tradition.

The result of such simple views is all too apparent. It is possible to see numerous areas in which the assumption is still made that a direct correlation can be made between scriptural statement and current social and political questions. For many the most obvious example will be the basing of apartheid on scriptural assertions which are held to justify, indeed demand, the total separation between racial groups – a misunderstanding which takes as ethnographically correct traditions about the origins and interconnexions of peoples known to the ancient world; and equally generalized from specific expression of the relationship between the ancient Hebrew community and other peoples as reapplicable to a nominally Christian community held to be a direct lineal descendant of the former. It is a more difficult question to determine the precise relation in this between a particular style of biblical interpretation and a particular view of the status of a national group.

The extreme Protestant stance in Northern Ireland offers a similarly over-simplified view; where the same kind of interpretative procedures are held to justify a combination of hostility to the Roman Catholic community and of nationalistic adherence to Great Britain. The historical roots of the conflict are seen through the assumption that biblical authority is given for paticular social and political attitudes.

Extremist religious groups of nationalistic kind lay claim to the "holy land" as guaranteed to Israeli possession in perpetuity, with little or no regard for the desirability of understanding the nature and context of the biblical statements summoned to support such claims. It is assumed all too easily that a statement once made can be used again in another context without any regard either for its original function or even its precise meaning.

The attempt at applying in modern political and social conditions lawcodes which belong to long past systems can be seen in a pointed manner where Jewish legal traditions are applied to contemporary problems; and very similar problems arise when modern states with a strong Islamic tradition endeavour to organize life on the basis of that particular legal system. Contemporary conservative reaction in favour of more rigid and literal application of Islamic codes represents a move away from freer and more liberal endeavours to understand the significance of Islamic belief and practice for a later time.

The more conservative religious adherents often make the assumption that there can be a direct application of Christian belief to the formulation of law; but such a direct application is not possible, both because of the nature of the religious tradition or the scriptural material to which appeal is made, and because of the complex nature of a society, as this now exists in all such countries, where only a minority are strictly adherents of a particular religious tradition; a large number are much more loosely attached to it, and many would either deny any such connexion or stand within other religious traditions altogether. The application to a mixed society of a single religious authority itself denies the rights of those for whom this authority has no validity.

The working out of a freer exchange between religious belief and contemporary life becomes possible only with a fuller recognition both of the past context of scripture and tradition, and of the less guaranteed, but therefore more acceptable, stance of a religion which can dare to make claims to truth without thereby making claims to authority.

The author has recently retired as Samuel Davidson professor of Old Testament studies and head of the department of biblical studies at King's College London.

Pioneer of power from the factory floor

Leonard Cantor and Geoffrey Matthews give a centenary appreciation of Herbert Schofield

It is difficult to think of anyone who has contributed more to the development of technological education in this country in the present century, than Herbert Schofield, born 100 years ago on December 8.

The impact of his powerful personality was most apparent at Loughborough, the base from which he operated for 35 years, from 1915 to 1950. That the small east midlands town of Loughborough with its "educational campus" – consisting of the University of Technology, which amalgamated with Loughborough College of Education in 1977; Loughbrough College of Art and Design; and Loughborough Technical College – should have one of the highest ratios of students to population in the country is due in large measure to Schofield's entrepreneurial skills.

Born in Halifax and educated at Imperial College, London, where he graduated in physics and undertook research on the internal combustion engine, he went to Loughborough in September 1915 aged 32, as principal of the technical institute, a small technical college offering mainly part-time courses in technical and commercial subjects and art. It was this small college, that he was to transform into the world-famous Loughborough College, from which the present-day institutions all derive.

The first stage began in January 1916 when Schofield introduced the first short training course for women munitions workers, a development that was to expand enormously during the next few years. He based this first course on the principle for which he was to become famous, "training on production", by which the workers were trained under conditions as similar as possible to those they would meet in munitions factories and, indeed, the college workshop produced shells for use in the war.

The success of this scheme, sponsored by the ministry of munitions in technical colleges throughout the country, enabled Schofield to expand his training programme until the Loughborough Technical Institute became the third largest in the country. New workshops and buildings were erected, at the expense of the ministry of munitions, which Schofield was to put to good use in the post-war Loughborough College.

In September of that year, in anticipation of the end of the war, Schofield introduced his first five-year full-time diploma course in mechanical engineering, his first major step along the road to his main ambition, the building-up of a high-level engineering college. It should be borne in mind that throughout his 35 years as principal, Loughborough College remained a local authority technical college, offering through its department continuative education non-advanced technical courses and commercial courses.

In the next few years, the Diploma of Loughborough College (DLC) grew rapidly and extended into civil, mechanical, electrical engineering, and commerce. Based on Schofield's principle of "training on production" the courses required students to spend alternate weeks in the lecture room and in the well-equipped and possibly unique college workshop, using buildings and equipment acquired during the war for training munitions workers.

During their periods in the college workshops, students were required to work under industrial conditions, manufacturing pieces of equipment which were then sold to technical colleges and other concerns all over the country. This can be regarded as the forerunner of today's "sandwich courses" in engineering and applied science. In addition, however, "training on production" served another useful purpose; it enabled Schofield to utilize the efforts of students and staff to improve the facilities of his college.

In the 1930s civil engineering students helped construct a swimming pool, an athletics track and a pavilion on a new "green-field" site which Schofield had persuaded the county to acquire on the western end of the town, the site now occupied by the "educational campus". Students in the school of art and design and handicraft students in the teacher training department made a wide range of stained glass and furniture for the buildings and halls of residence.

During the formative inter-war period, Loughborough College witnessed three significant academic developments. In 1930, a new department for the training of handicraft teachers was established, the predecessor of Loughborough College of Education as well as the university's present department of creative design. The teacher training activities were expanded in 1936 when a course for teachers of physical education was established and, in the following year, a school of athletics, games and physical training was set up. These have developed into the university's department of physical education, an activity for which Loughborough has become famous. Thirdly, an annual summer school was established in 1931 with courses mainly in physical education and crafts and design, a venture which has continued ever since without a break.

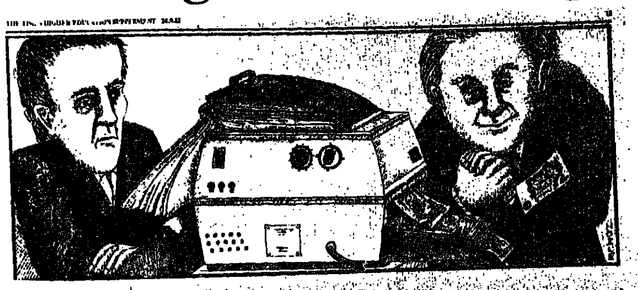
During the second world war, the college trained technicians for the services and made its recreational and residential facilities available for use as an RAF Medical Rehabilitation Centre for aircrew. For Loughborough College, as for most other educational institutions, the immediate post-war period brought large numbers of ex-servicemen flocking to the college to undertake its diploma courses in engineering and applied sciences and its teacher training courses in handicraft and physical education. By this time, Schofield was well into his sixties and he retired in 1950 at the age of 68. He died on September 18, 1963 in his eighteth year.

The remarkable empire which Schofield created did not long survive his retirement. It proved impossible to hold together the many activities of Loughborough College and within a few years it had broken up into four separate institutions.

Of Schofield himself, it can be said that his contributions to English higher education were significant and long-lasting. He put his life's work into the creation of Loughborough College, an institution unique among English technical colleges, and set in train many initiatives from high-level engineering courses to the training of teachers of physical education and handicraft and the development of a school of art. The reputation of Loughborough today in these various areas of academic achievement owes more to Schofield than any other man.

The authors are Schofield professor of education and lecturer in history respectively at Loughborough University of Technology. They have also co-edited Herbert Schofield at Loughborough: A Pictorial History, *available from the university.*

Working out a fair copy



A licence to print money

Michael King explains why new copyright laws could prove expensive for the academic world

S. B. Saul and John Davies (below) take issue with the claim that new copyright laws would protect "selfish commercial interests" at the expense of academics

Michael King's article *A licence to print money* (*THES*, September 24) attacked the publishers on what is considered to be their capacious attitude towards possible changes in the law of copyright and criticized the Committee of Vice Chancellors and Principals for taking too cagey a attitude over the issue of multiple copying of copyright material. The CVCP has recently expressed its view on this and other copyright matters in a submission in response to the Government consultative document *Reform of the law relating to copyright, designs and performers* (Cmnd. 8302), and also in a reply to a photocopying licensing proposal made by the Committee of United Kingdom Copyright owners.

The Government Green Paper arose from the increasing inability of the 1956 Copyright Act to provide an appropriate legal framework to protect copyright owners in a time of rapid technological change. The photocopying of printed material touches the interests of universities and closely, and this is the primary concern of the copyright owners' committee. It was this question alone that concerned Mr King, but the consultative document deals with a wide range of other matters of direct importance to universities – audio and visual recording, computers, and the ownership of copyright – and the CVCP's response covered all these matters in some detail.

One of the basic purposes of copyright law is to enable authors to control the reproduction of their work. Certain activities are considered "fair dealing" under the Act and are allowed without the need for permission and payment. The Act does not define the scope of fair dealing, although it is generally recognized that for dealing to be fair it should not compete with the author's work by diminishing its sales.

Single copying of reasonable proportions of a book or journal for the purposes of research or private study does not constitute an infringement of copyright, a provision which is of fundamental importance to academics and students in higher education. As the Royal Society commented in regard to copyright law: "Making single copies of extracts from books and periodicals is essential to research workers and the production of such single extract copies is done on behalf of scientists is necessary for scientific practice."

The CVCP welcomed the Government's intention to retain the fair dealing exceptions related to single copying. The fact that the copyright owners' blanket licensing scheme proposed to charge for *all* copies, notwithstanding the fair dealing exceptions of the 1956 Act, was a major factor in leading the CVCP to reject the scheme. This incidentally also proposed to reduce the existing interpretation by the Publishers Association and the Society of Authors of "reasonable proportion" in regard to fair dealing single copying. Assuming that the fair dealing provision will be retained, the main point at issue is the making of multiple copies of the same material for teaching purposes. The Publishers Association takes the view that multiple copying, particularly from journals, adversely affects their sales, and the Green Paper suggests that the fair dealing provisions of the 1956 Act be tightened specifically to exclude multiple copying. This is really the crux of the matter, for universities believe that *controlled* multiple copying enables them to make full use of modern technology to further teaching and learning techniques without harming the economic interests of authors and publishers.

Just where the line should be drawn between acceptable multiple copying without payment and copying for which payment can reasonably be required is a matter for debate. Copying of material that is out of print is specifically provided for under Australian law, for example. The music publishers in this country have set out the distinction very clearly and, to my mind, very fairly. The reproduction of complete scores for orchestras and choirs is an unacceptable form of multiple copying, obviously involving loss for the publisher, but the taking of multiple copies for teaching purposes of part of a score, defined as being less than a performable unit, is accepted under their code of fair practice.

It may be that the way forward is to try to reach agreement on codes of fair practice of this kind, defining at what point multiple copying requires payment and what that payment should be, possible combining elements of both the Australian and American laws of copyright. It is interesting that American learned societies are establishing such codes for their own journals. The American Institute of Physics, for example, has recently announced new rules for the six journals it owns: "Individual teachers, students, researchers and libraries acting for them are permitted to make copies of articles in this journal for their own use in research or teaching, including multiple copies for classroom or library reserve use, provided such copies are not sold." It would help if learned societies in this country would consider establishing similar codes.

Essentially, then, the view of the CVCP in this matter coincide with those of Mr King, even if he expresses himself more forcibly and casts doubt on the motivation of the publishers which we do not share. Mr King also criticises the CVCP for committing a "tactical error" by minimizing the extent of multiple copying.

Be that as it may, when, in response to a temporary indemnity offered by the Publishers Association, some universities made internal inquiries to help determine their attitude to the proposed blanket licensing scheme, the conclusion was that single copying was much more important than multiple. This is not to deny the crucial importance of multiple copying for some departments – possibly for lawyers more than others – but it does show that any potential financial loss to the publishers is very small.

To sum up: an essential part of university teaching is the encouragement of the study of primary sources and of specialized articles in periodicals. Students normally buy their own copies of textbooks basic to their course and they make full use of their libraries – in the present constrained circumstances of university libraries they stretch these resources to the limit. But at this academic level, lectures, seminars and classes are commonly conducted on the basis that the students present will have read and be prepared to discuss a number of specific extracts from books and articles. The availability of controlled multiple copying for class or seminar use – as a substitute only for the individual use of a photocopier by each student under existing fair dealing arrangements – would allow the effective flow of information essential to modern teaching practice.

Academics do not think multiple copying for teaching purposes is "free". Quite apart from the issue of remuneration of the owners of the copyright, the institution has to bear the cost of the equipment, paper, maintenance and administrative and library staff involved in the reproduction and distribution of photocopied material. Universities are fully aware of their obligation to ensure in appropriate circumstances that copy right owners receive remuneration for their work.

We are asking for carefully controlled multiple copying within reasonable limits to be regarded as fair dealing in law. Where multiple copies are required beyond such limits, it is accepted that there should be machinery for seeking permission and paying appropriate royalty fees. Since much of what needs to be reproduced derives from authors within the academic community, these are hardly unreasonable expectations.

Quite apart from these objective considerations, however, it must be made clear that during this period of acute financial stringency, which shows no sign of coming to an end, there is no pot of gold from which publishers can expect to draw more resources. Already libraries are hard pressed to maintain their existing collections and are obliged to set acquisitions at a level far below the optimum.

If photocopying extracts were not possible it is unrealistic to suppose that additional copies of books and journals would be purchased, and any payment for photocopying will have to be met by reducing other acquisitions. Limited multiple copying would make possible effective use of the contracting resources provided from public funds for the universities.

The universities rejected the proposed blanket licensing scheme put to them last year by the copyright owners because it would take away the existing fair dealing right for private study and research under the 1956 Act; because the rates suggested were regarded as excessively costly (10p surcharge per copy of each page from a periodical and 4p per page from a book); and because the system proposed would have been administratively complex.

The CVCP has said it is willing to consider with the Publishers Association and others alternative methods of blanket licensing for multiple copying or the setting up of agreed codes of practice. In the meantime, given the present state of the law, academics would do well to avoid multiple copying for teaching purposes unless they obtain prior permission from the copyright owners – something which, in the case of many learned journals, is readily given.

The author is vice chancellor of York University and chairman of the CVCP committee on university libraries.

'Don't kill the geese which lay the golden eggs'

The article by Michael King (*THES*, September 24) is so riddled with inaccuracies and misconceptions about copyright that it is astonishing to believe that it emanated from a school of law. It will serve no useful purpose for any of the parties involved in seeking an equitable solution to the problems posed by the use of copyright in education.

Mr King states that teachers in higher education will have "multiple copying for teaching purposes snatched away from them for dubious commercial reasons". It must have escaped his notice that there is specific reference to educational institutions in the 1956 Copyright Act. Section 41 of this Act is headed "Use of copyright material for education" and makes it quite clear that copies may not be taken for use in the course of instruction at a school or elsewhere by use of a duplicating process. A "duplicating process" is further defined in this section as any process involving the use of an appliance for producing multiple copies.

No right is being "snatched away" from teachers. Mr King is pleading for the continuation of illegal behaviour. The statement in the Government Green Paper of July 1981 that the exceptions in Sections 6 and 7 of the Copyright Act "were never intended to allow systematic copying of the same material" is a perfectly correct one, as is the opinion of legal textbook authors that there is no provision in law for multiple copying for teaching purposes.

There is nothing "dubious" or "commercial" about the protection of copyright, which has been a feature of British law for over 250 years. Copyrights, like patents, exist to ensure that those who invest and produce a work are not exploited by those who wish to use it to their own benefit without any benefit to its creators.

It must be stressed that the protection of copyright and the development of a licensing solution have received equal support from the national associations of authors to that given by publishers' organizations. Repeated references solely to the Publishers Association in this context can only be attributed to ignorance or to distortion.

Agreements are therefore being made between authors and publishers to ensure that the distribution of any revenue collected from photocopying will be conducted on a fair basis. Publishers of academic books rarely accrue anything like as much profit from a publication as the royalty which they pay to the author.

The learned and professional societies are the mainspring of journal publishing at the academic level, producing either under their own auspices or through an agreement with a commercial publisher the results of research within a particular subject discipline. Most of those authors who produce this very valuable information are themselves members of the relevant society. If their writings are wantonly pirated, there will no longer be a viable financial basis for the dissemination of such research.

The evidence which came before the Wolfenden committee of copyright owners indicated that, annually, for every learned article that is published in the United Kingdom, 12 copies are taken in libraries and 12 copies are taken in departments. Such widespread replacement of purchases cannot but affect sales, and journal circulation figures have been declining significantly for some time.

The Royal Society rightly sees copying activity as a threat to the future stability of the scientific information system. The British Library lending division estimates that the cost of making a loan by photocopy is £2.30, whereas lending of the actual book or journal costs £4, so major savings are being made at the expense of the copyright owner.

I am surprised that Mr King has not heard of publishers' involvement in the new technology, particularly the establishment of the LEXIS and EUROLEX legal document delivery systems. Such developments do in fact effectively give the lie to claims that free copying should be allowed. When you have only one electronic master, expensively prepared, you just cannot permit people to take copies without payment. A charge has to be made for every copy taken. The same should apply to photocopying.

The Government in the recent Green Paper has followed the suggestion of the Whitford report and has urged copyright owners to set up licensing schemes. Contrary to Mr King's contention, these allow users to take copies without obtaining prior permission in each case and dispense with what, under present law, is a very cumbersome procedure – writing to the copyright owner for permission.

The user decides how much is required, records the transaction and pays for each copy of a page made on a *pro rata* basis. One article from a journal can be purchased in this way from around £1, instead of buying the whole journal for £5. The user is simply being asked to pay the going rate for material copied. The keeping of records does not seem to present a problem. Mr King would apparently be prepared to do this in any event for the Department of Trade.

Licensing has been proved to be a workable system. Performing rights are licensed. The Ordnance Survey has operated a scheme for map-copying in the United Kingdom since 1945. Licensing schemes are being established for photocopying in many other developed countries: the Netherlands, Scandinavia, Germany, the United States, Australia.

Academics who are themselves authors will see the justice of giving scholars a reasonable reward for their labours. Through the whole copying pantomime, the world of learning is placing itself in danger of killing the geese which lay its golden eggs.

The author is educational director of the Publishers Association.

The heatless world of Kelvin Zero

Waldo T. Boyd surveys the physics of cold states of matter, cryogenics, and says it is bringing closer the day when energy will be obtainable from water

"Cold", as an absolute state, does not exist.

In working with the physics of very, very cold states of matter, it is helpful to think only of relative degrees of heat and temperature. In this context, "cold" is our physiological reaction to relative absence of heat and of itself has neither source nor existence.

Things like apples and rubber balls behave very differently from the usual when nearly all their heat has been extracted. Apples and gold balls become quite brittle and will shatter like crystal globlets, while copper objects become much more ductile and, incidentally, will conduct electricity far more efficiently. In fact, one of the proposed practical uses for ultra-cold is in transmitting electricity efficiently over long distances.

The science fiction idea of encrypting human bodies in liquid nitrogen instead of conventional burial or cremation has received so much publicity that the hundreds of more practical uses for heatlessness have been almost obscured from view.

Cryogenics is the science and technology of heatlessness, the physics of low temperatures. While some theoretical aspects of extreme low temperature had been known since at least the latter half of the seventeenth century, the science of cryogenics has its beginnings in 1877 when oxygen was first liquified. The first serious effort to liquify oxygen and nitrogen in quantity occurred in 1907, when an air separation plant was built in the United States.

Helium has the lowest liquifaction point of any gas, and occupies only 1/750th as much volume in liquid form. It was first liquified in 1908 when Heike Kamerlingh Onnes at the University of Leiden reduced its temperature to −452°F. Hydrogen and helium liquifiers based on Onnes's work were built in Toronto in 1923, and by 1940 about a dozen laboratories world wide could boast a cryogenic liquifier. A litre of liquid helium was priceless in those early days, and even today it is not inexpensive.

There are three main temperature scales in use throughout the world: The Fahrenheit scale, with the freezing point of water at 32 degrees and the boiling point at an odd 212 degrees, and Celsius (sometimes referred to as Centigrade) scale with water ice at zero degrees and water boiling point at 100 degrees, and the Kelvin (or absolute) scale with its zero point at the theoretical point of absolute heatlessness and its upper limits at infinity. The Kelvin scale uses the same specific degree measurement as the Celsius scale, which is the result of dividing the difference between the freezing and boiling points of water by 100. Zero degrees Kelvin equals − 460° Fahrenheit. The Kelvin scale was named after William Thompson (Lord Kelvin).

When S. T. Collins, of the Massachusetts Institute of Technology in the United States, developed a simple cryostat (a machine to liquify gases) the door was opened to virtually any industrial laboratory interested in pursuing the new technological promises of supercold states of matter. With liquid helium now available at much lower cost, and liquid oxygen, fluorine, nitrogen, methane, neon and others considerably reduced in cost, cryogenics graduated from the laboratory to industry.

The envelope of atmosphere surrounding our planet is composed of a mixture of many gases, mostly nitrogen and oxygen. At ordinary temperatures, these elements in gaseous forms are the winds from the north and south, and the air we breath. The temperature in the far North Pole countries can become as low as about −90° Fahrenheit, and while the air is a bit heavier it is still in the form of a gas. Reduce the temperature further by special refrigeration techniques, lower than the point where animal life is possible, lower still until only special thermometers can measure −297°F, and the oxygen gas in the air becomes liquid. Contained in special "thermos bottles" called Dewars, liquid oxygen occupies only about 1/240th the volume that it did in gaseous form, and its potency as an oxidant is not only retained, but concentrated. In fact, specialized techniques had to be developed to contain it safely. One of the dangers of using a home-made cryostat lies in the fact that oxygen from the air will liquify on the coils, drop to the floor like water, and if oil or other combustibles are touched, spontaneous combustion occurs.

Other gases retain their form until even more heat is extracted from them. At −320°F nitrogen, the most abundant gas of our atmosphere, becomes liquid. Remove more and more heat until the temperature of the remaining gases reach −423°F and hydrogen turns to liquid. We now have two liquids that, when combined in their liquid state, are "hypergolic". This is a technical term meaning spontaneous combustion, and the burning of these two elements is so efficient and proceeds so quickly that liquid oxygen and liquid hydrogen were the propellants used to lift the first astronauts from the surface of our small planet and carry them to the moon and back.

Storage of huge quantities of these two elements is the only practical way to make them industrially useful. If 25 million cubic feet of oxygen were to be stored under pressure at a steel vessel of material almost two inches thick and 200 feet in diameter would be required. It would weigh about 2,000 tons and would cost almost $2m (£1.3m). The same quantity of oxygen can be contained in liquid form in a vessel only 39 feet in diameter! The vessel would have two "skins", with insulation between them, as in a thermos bottle, and would weigh about 145 tons. It costs today: about $200.000 (£130,000).

Methane, the major ingredient of natural gas from wells, reduces in volume about 600 times when cooled to liquid temperatures. In terms of the cost of transporting this gas – all too often flared and wasted at the oil field – liquifaction and shipment via ocean-going tanker to using destinations becomes economical and profitable. In this context it is dubbed LNG, liquid natural gas.

While liquid nitrogen burial has received most of the publicity, there have been many worthwhile advances in medicine and surgery brought about by this fledgling science. One of the most widely known concerns the treatment of keratoses, pre-cancerous lesions that develop on light-skinned persons who spend too much time in the sun. A drop or two of liquid nitrogen is applied to the lesion, instantly and painlessly deep-freezing the area. Within a few days the lesion heals and almost always without visible scar.

Surgical removal of the prostate has been a notably difficult operation; many surgeons have taken to use of liquid nitrogen for its removal, finding this method much more efficacious and apparently less dangerous to the patient. Haemorrhoids, also, are now treated by these means, as are removal of warts and other unsightly growths.

Another medical application of cryogenics involves the long-term storage of experimental cells, and of sperm. Blood, too, has been found to be storable under deep-freeze conditions, although generally this is limited to the plasma portion of the blood. Live cells, including the blood's red and white corpuscles must be specially treated to prevent catastrophic freezing und expansion of their water content. A study of live-cell cryogenic freezing promises many worthwhile developments in this field, with the possibility of long-term storage and live restoration of higher animals as a goal. In this regard, while cryogenics is generally considered to involve temperatures at and lower than the liquifying point of oxygen, medical practitioners often term their work as involving cryogenics, even though it may concern temperatures as high as −20°F.

Storage of sperm has immediate vital economic advantages in animal husbandry. A prize bull may produce offspring for many generations beyond his ordinary life span. An outstanding racehorse may sire many generations of progeny long after his life as a stud has ended. Prize rams, boars, and poultry can have their productive years extended, to the benefit of the farming industry.

In general, medical use of cryogenics does not at present extend much below the boiling temperature of liquid nitrogen at −320°F, although a few laboratories are exploring biological effects of the lower realms of heatlessness.

When electricity flows through a copper wire at room temperature, its electrons encounter difficulty in travel, much like a car on an unpaved, heavily gravelled road. When heat is withdrawn from the wire until its temperature lowers to near the −450°F mark, nearly all the resistance to its travel is removed. As in an electric toaster, resistance to electrical flow can cause the conducting wire to heat; if cooled to near-absolute-zero temperatures the wire would hardly heat at all. Heating represents millions of kilowatts of wasted energy in cross country transmission lines.

If a wire is made of niobium instead of copper, and its temperature is reduced to near-absolute-zero, all resistance disappears, and electricity flows with perfect freedom. If the wire ends are connected to form a ring, and a current of electricity is started in the ring, it will flow without loss "forever" – that is, as long as the temperature is kept below a certain "transition" point. This effect is called "superconductivity". Technicium is the element with the highest transition point, 11°K (Kelvin). A compound of niobium and tin becomes superconducting at 18°K.

A search is on for alloys that will superconduct at much higher temperatures. Even at 18°K, maintaining temperatures this low is quite expensive, as heat from the atmosphere tries always to penetrate into the very cold area. The lower the temperature, the more difficult it is to prevent heat from entering the container. Thus, if a superconductor with a higher transition point is found, it can be kept at a temperature below its superconducting point much more economically. Industry will welcome such a material. If some compound could be made superconducting at the temperature of the household deep-freezer, almost unbelievable improvements in virtually every type of electronic apparatus would be possible.

Superconducting memories for computers promise to concentrate computer power in megabit quantities in a very small space. Today's microcomputers might become as great in memory capacity as the multi-million dollar industrial installations found today in such areas as major insurance company offices.

In the work to achieve fusion energy that proceeds apace in many laboratories throughout the world, gigantic coils of niobium-tin conductors are bathed in thousands of gallons of liquid helium. Such coils produce highly concentrated magnetic fields in a very small space. These magnetic fields are the only known containers of atomic fusion, hotter even than the temperature at the surface of the sun. It is noteworthy that the lowest temperatures reached by science are required to produce the highest sustained temperatures science has achieved.

Imagine for a moment what the effect would be if a water glass, filled with water, would empty itself flowing up the inside of the glass, over the lip, and down the outside. This is exactly what happens when liquid helium is cooled below 2.2°K. It ceases to be a liquid in the ordinary sense of the term, but does not turn to ice, or solidify. Instead, it becomes "superfluid".

Underground cable, cooled by liquid to −320°F, will transmit power from remote power substations on the city's edge, to its centre.

Scientists and laymen alike are fascinated by this phenomenon. Effects occur that require a new look at old theories of the behaviour of matter. For instance, a small tube filled with superfluid helium produces a fountain, shooting upwards as much as a foot high. Sound waves travel through it instantaneously, as contrasted with the speed of sound through water about 4,000 feet per second. Likewise, a touch of heat on one side of a vessel containing superfluid helium will travel instantaneously through the liquid.

If in imagination we stand at Kelvin Zero (perfect heatlessness), no heat whatever exists, any heat at all is detectable, and its source can be pinpointed quite readily. Thus, if we lower the temperature of a heat detector to cryogenic temperatures, that detector can "see" a warmer object for quite some distance. The reason for this is that heat travels "downhill" in much the same manner as water will always seek a lower level, until it reaches the ocean. "Downhill" to heat is towards an object or area that is lower in temperature.

This is the principle by which certain rocket bombs seek an aircraft exhaust stream, homing in on the aircraft's tail pipe no matter what evasive manoeuvres the plane might take. The only escape is to turn off the plane's engines and glide for a long distance, causing the rocket to "home" on a false target.

A more peaceful use of heat sensing apparatus, cooled to cryogenic temperatures by liquid nitrogen or liquid helium, is to find geologically active heat sources near the earth's surface, so that a geothermal power staion may be constructed there.

As we approach the year 2000 AD, petroleum, our most "dependable" natural energy resource to date, is becoming alarmingly in short supply. The cost of finding new sources has doubled and tripled in just a few years and there are rumblings about eventual depletion within our children' lifetime.

The most promising near-term relief for this coming energy crisis is the use of coal. Anyone who has lived in or near a large city whose inhabitants and industries are primarily coal burners can visualize in an instant the choking nature of the air, as well as the constant rain of soot that accompanies it. It is evident that coal can no longer be used in the "old way," ie burned in open-air furnaces. Ways to turn coal into hydrogen have been developed, far more efficiently and without the usual accompaniment of soot and choking fumes. But to use this hydrogen in the grand and profligate manner that we have become accustomed to with petroleum, we must "contain" it, store and transport it in tanks. Cryogenics has paved the way for the coming "hydrogen economy".

Hydrogen powered automobiles have been and are being driven under "user test" conditions even today, having long since emerged from the laboratory. A hydrogen powered aircraft has been built and flown successfully, its fuel tanks carrying liquid hydrogen at cryogenic temperature.

A small city in Iowa, is converting from natural gas (methane) in pipelines serving each home, to hydrogen made from coal; construction of the retort and arrangements for coal supplies are progressing, and changeover is scheduled for 1985. This city's gas storage tank will be a larger Dewar sphere, of which many may be seen in the vicinity of missile and rocket launching sites. They are distinctive with their long, spiral inspection stairway leading to the top, and not at all unsightly as may be said of the old cylindrical style liquid and gas-holding tanks.

The bright promise of enegy from the ocean, through atomic fusion (as contrasted to our present use of atomic fission), must be accompanied by the continued expansion of cryogenic science. Industrial laboratories in America, Russia and Europe are working steadily towards the day when sucessful containment of the fusion of "heavy hydrogen," the deuterium atom, can be applied to the production of much needed energy. Huge magnets, bathed in liquid helium at a temperature very near Kelvin Zero, create magnetic fields which promise this containment, since no known earthly metal can withstand the extremely high temperatures produced when two hydrogen atoms combine to produce an atom of helium.

The oceans are involved, because deuterium, often called "heavy water", is available from them in unlimited quantity. The long-held, "impossible" dream of man to obtain energy from water is within sight. The science of cryogenics is shortening the time scale towards final realization of this goal.

The author has taught at Australian and American colleges and is at present a full-time science writer.

BOOKS

Linguistic prison-houses

Roger Silverstone

Barthes: structuralism and
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Barthes Reader
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Roland Barthes died in 1980 after he had been hit by a van in the streets of Paris. His legacy consisted of 17 books of criticism, both literary and political, numerous essays and published conversations, and a reputation mythical in its proportions. His work is dense, perverse, arcane, poeticized, aphoristic, radical, reactionary and profoundly challenging.

As an anglophone it is intensely difficult to summarize and judge fairly Barthes because of the peculiarities of the French intellect and the qualities of work produced in postwar France and partly because of Barthes's own insistence on demonstrating through the forms of his writing that language and literature should not be about. He wrote to defy the classical bourgeois forms, to unmask what has passed in them for the natural and the taken for granted. He refused consistency, coherence and completeness, embraced fragmentation. He wrote, indeed, to bore.

Susan Sontag, who has collected and introduced a new collection of Barthes's works reflecting the full range of his interests and appetites, is well and truly seduced. Barthes for her is a true modern, a Wildenn aesthete writing for pleasure, to praise and to give pleasure. Uncontainable by the conventional characterization of him as a structuralist or semiologist, in his brilliance, she believes, will certainly earn him a place in the canon of great literary great. She has chosen to create her panegyric with selections from most of his main work, although there is nothing from the two most systematic – *Elements of Semiology* (first published in 1964) and *Système de la Mode* (1967). *Mythologies* (1957) is well represented, so also is the collection, *Critical Essays* (1964) and extracts from his later, increasingly idiosyncratic and enigmatic writing. Three essays, the first on Gide, written when he was first treated for tuberculosis in 1939, his inaugural lecture at the Collège de France, and a final "Deliberation" in which he returns to the various themes of the first essay, are not to my knowledge been published in book form in English before. Overall this is an excellent collection and presented, as one might imagine, with care and devotion.

Annette Lavers's relationship is altogether a more complex affair. Of her book, disciplined, mature and demanding as it is and the product of intelligent and rigorous research, is by no means an easy or straightforward account. Indeed she makes few allowances for the uninitiated and the English and presents a narrative which is wedded (even in the heading of its chapters) to the substance of Barthes's elliptical prose. Just for her the studied distance of Philip Thody's earlier introduction to *Roland Barthes: a conservative estimate*, 1978) with its forthright, neat, though apologetic reductionism and question: What does Barthes really say and how does it compare to the works of critics writing in the English tradition; Answer: Not a lot), or Stephen Heath's committed immersion (*Vertige du déplacement*, 1974) into the French language for his. On the contrary Annette Lavers's English is French in its obscurity and her reasoning Gallic in its twists and turns. Nevertheless this is an important book and one worthy of the effort it undoubtedly demands in reading it.

Her clear intention is to present a coherent exegesis of a difficult body of work, to place it and identify its logic and its movement. The result is more in the nature of a commentary than an introduction and it is unlikely to endear itself to any but the most advanced student.

She begins with a question, actually one of Barthes's own: "Where to begin?" and disingenuous though it may appear (for it does itself provide a beginning) it is apposite, for the conventional ways of opening and presenting an account such as this – where was Barthes born, what were the main events of his life and the most significant influences on his work, can his ideas be shown to have developed progressively – cannot be adopted unreflectively and without some significant injustice. Even though he was very much a child of his time, influenced by those working before and around him, all of whom were discovering the world in language, and even though he cannot avoid becoming the hero of his own narrative, Barthes manifestly and consistently resisted presenting himself as "author", with all the connotations of personal responsibility and clearly defined identity which such a label suggests. His own autobiography, *Roland Barthes by Roland Barthes* (1975) was presented substantially in the third person and he encouraged his readers to approach it as if it were fiction.

Nevertheless it is as well to know that he was born in Cherbourg in 1915, suffered from tuberculosis before and then again during the war, published his first book, *Writing Degree Zero* in 1953, cemented his reputation as a profound literary disturbance in 1963 with his book on Racine, and became a professor at the august Collège de France in 1978, the anti-hero at last accepted into the fold. And it is as well to know that he worked in an environment already buzzing with intellectual and literary adventure. Of the older generation the work of André Gide, Sartre and Roman Jakobson among many others appear crucial. The first provided a model of posture and style: "Gide puts everything in the *movement* of his thought and not in its brutal profession" (On Gide and his Journal). The second provided a model of radical commitment, but also in his negativity and his materialism an opponent to be challenged and superseded. And the third, with his early colleagues in the Prague circle and later in his own researches, affirmed many aspects of Saussure's seminal work on the nature of language, providing profound insights into its essential binariness and into the arbitrary relationship between sound and sense.

His contemporaries, influencing and influenced in turn, are conventionally labelled structuralists or semiologists, though only one, Lévi-Strauss, accepts the validity of the first label as applied to himself. Lacan, Foucault and Julia Kristeva have in different but broadly compatible and contiguous ways undertaken inquiries into the nature of language and communication, into the ways in which meaning is constructed not just in spoken and written words but through the whole range of "signifying practices" (the currently fashionable term for culture); in the images of film or advertising hoardings, in fashion, myth and in the structures of knowledge, power and the unconscious. In each the search is for codes, the primary dimensions of order in communication, an unconscious familiarity with which enables members of a society to read and understand the messages which comprise their world; and equally of course enable a modernist critic such as Barthes himself to trounce and denounce them as the chains which bind man to the oppression of language, restricting his freedom to speak truthfully and honestly.

In the first section of her book Annette Lavers attempts to establish her own framework for an understanding of Barthes's work, identifying in doing so some of the persistent and persistently torturing paradoxes which he masochistically clutched to his febrile breast. The first is the paradox in language itself: "I write because I do not want the words I find" (*The Pleasure of the Text*, 1973). Language is both tyrant and liberator. We use it to speak and to write, above all for Barthes to write, but it uses us unless we are careful and rigorously aware (and often even then). His work is a sustained struggle to find the space for himself and others to express opposition to the classical and bourgeois forms of writing and to do so without accepting the (linguistic) terms set by classical and bourgeois thought.

Roland Barthes

The second paradox concerns the status of the author and follows from the first. Traditional literary criticism encourages a critic to put himself in the place of the author through whose skill and imagination a unique work of literature is created. But once language is recognized as constraining, and once it is seen as having a force and status independent of our capacity to speak or write it, then the author and his writing become like the table in the eyes of a sub-atomic physicist, a fascinating interplay of structures and particles. The author as such disintegrates, as does his life-time's work, and what becomes important for the modernist critic is the deciphering of *that which writes him*, the styles, the forms of thought which precede, inform and challenged and superseded. And the third, with his early colleagues in the Prague circle and later in his own researches, affirmed many aspects of Saussure's seminal work on the nature of language, providing profound insights into its essential binariness and into the arbitrary relationship between sound and sense.

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In the first section of her book Annette Lavers attempts to establish her own framework for an understanding of Barthes's work, identifying in doing so some of the persistent and persistently torturing paradoxes which he masochistically clutched to his febrile breast. The first is the paradox in language itself: "I write because I do not want the words I find" (*The Pleasure of the Text*, 1973). Language is both tyrant and liberator. We use it to speak and to write, above all for Barthes to write, but it uses us unless we are careful and rigorously aware (and often even then). His work is a sustained struggle to find the space for himself and others to express opposition to the classical and bourgeois forms of writing and to do so without accepting the (linguistic) terms set by classical and bourgeois thought.

The second paradox concerns the status of the author and follows from the first. Traditional literary criticism encourages a critic to put himself in the place of the author through whose skill and imagination a unique work of literature is created. But once language is recognized as constraining, and once it is seen as having a force and status independent of our capacity to speak or write it, then the author and his writing become like the table in the eyes of a sub-atomic physicist, a fascinating interplay of structures and particles. The author as such disintegrates, as does his life-time's work, and what becomes important for the modernist critic is the deciphering of *that which writes him*, the styles, the forms of thought which precede, inform and challenged and superseded. And the third, with his early colleagues in the Prague circle and later in his own researches, affirmed many aspects of Saussure's seminal work on the nature of language, providing profound insights into its essential binariness and into the arbitrary relationship between sound and sense.

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In the first section of her book Annette Lavers attempts to establish her own framework for an understanding of Barthes's work, identifying first a statement of general attitudes, the second characterized as an "euphoric dream of scientificity", the third as a development away from the closure of structuralism into a more fluid and aggressive semiology, and the fourth where a mellowed and humanized Barthes obsessively wrote, it would seem, for himself.

Her choice of seminal text is *Writing Degree Zero* (1953), (for Sontag it is the early essay on Gide, for Thody writing before the oeuvre was complete it was the more sociological *Mythologies*), and she begins her account of his raking intellectual progress by a consideration of this slim but at the time of publication quite startling volume.

"Zero degree writing" is basic writing, clear-speak, the writing of Camus, shorn of style and rhetoric, transparent and innocent of history: if the writing is really neutral, and if language instead of being a cumbersome and recalcitrant act, reaches the state of a pure equation, which is no more tangible than an algebra when it confronts the innermost part of man, then Literature is vanquished, the problematics of mankind is uncovered and presented without elaboration, the writer becomes irretrievably honest (*Writing Degree Zero*).

Barthes is searching for what he freely regards as utopian, except as a momentary effervescence: writing treed, above all in its form, of the conflicts and oppression which society imposes through and in the conventional modes of expression. In *Writing Degree Zero* he identified many of the themes which would haunt him throughout the rest of his work: the emphasis on form rather than content, the activity called *writing* which demands of its author and its readers that they challenge the authority of the language in their text, that they take nothing, literally, as read; the attack on bourgeois literature for its assumption that realism and naturalism in its fiction somehow guarantees its content as real and its forms as natural; and finally the search for novelty as a way out of this prison-house of language.

Annette Lavers uses these and other dimensions of Barthes's early work to establish the first appearence of the various threads which spun out over the next 27 years.

One route took him in search of science. In *Elements of Semiology* and *Système de la Mode*, he discovered and breathed life into *homo significans*, Ferdinand de Saussure, the Swiss linguist, had announced in the early years of the century that a general science of semiology, the study of signs and signification, based on his own insights into the nature of language, was now a possibility. If language was structured and could be understood systematically, if meaning was a function of difference and not of reference, and if all human communication depended like language itself could be order, then language could be considered as just one version of man's general capacity to communicate through signs and symbols. Some fifty years after this initial perception, Barthes began to explore its implications, though reversing some of its emphases: language was to be the model for, and not just an example of, communication, and writing rather than speech was to be the main object of analysis. And so, amidst all the recent work done on syntax and semantics which had made the study of language so much more complex than even Saussure seemed to imagine, Barthes became the guru of this new, explosive and fascinating field of study.

Elements of Semiology, a discussion of the nature of the sign and of its capacity to carry meaning in language and culture, provided the basis for an extraordinary excursion, in *Système de la Mode*, into the written language of fashion (not fashion itself which of course provides another example of a semiotic system). It was the most self-consciously positivistic of Barthes's works, but at the same time it marked a watershed, for in *S/Z* (published three years later in 1970), the reductive chains which semiology is inclined to impose on the fluidity of culture were burst asunder. Still the same preoccupations of course, as Annette Lavers is keen and successful in pointing out, but the analysis was no longer foreclosed; "static structure" became dynamic "structuration". Barthes grappled, in *S/Z*, with a relatively unknown Balzac novella, trying to show how its story of mistaken sexual identity and of a narrative within a narrative, could be opened up (deflowered is perhaps a more appropriate metaphor) to reveal not just its own secrets but the secrets of writing itself. In a real and positive sense the analysis was inconclusive: "At its discrete urging, we want to ask the classic text: *What are you thinking about?* but the text, wilier than all those who try to escape by answering: *about nothing*, does not reply, giving meaning its last closure: suspension." (*S/Z* page 217.)

The other, parallel, route cast Barthes in the role of a literary and sociological party-pooper: a figure in the corner who not only refuses to join in but who insists on tearing the masks off the faces of his fellow revellers in order to reveal them as they truly are. It is a bourgeois party and the masks are its myths, the disguises of an omnipotent class's exploitation and hypocrisy. *Mythologies* provided examples and theoretical justification for this iconoclasm. It was urbane, witty and stunningly accurate. Professional wrestlers, steak and chips, the *Guide Bleu* and margarine were among the many manifestations dissected revealing them as products of the unconscious and its bourgeoisie to naturalize the artificial in all that it holds dear, the artificial in all that it holds dear. It is in this capacity to penetrate the tacky surface of bourgeois culture and literature that Barthes was, I suspect, at his best, though neither Susan Sontag nor Annette Lavers would necessarily agree. For both of them it was in his last works, beginning with *The Pleasure of the Text* and what its translator, Richard Howard, called "the erotics of reading", that Barthes most significantly broke free of the constraints of structure and system to nakedly face the essential both in himself and in his writing.

But he was not entirely naked, for Annette Lavers suggests that he found in those last works a new prison-house to replace the old one of language – the Freudian unconscious and its *bête noir*, the Oedipus complex. Balzac's story, the object of *S/Z*, had been found not only to be about castration (its hero Sarrasine was a castrato, hence the opportunity for sexual misrecognition) but was itself, as all coherent texts to some extent must be, castrating. The consequence of this insight was a flight into a fragmentary style of expression, increasingly aphoristic, perversely inconclusive, as Barthes became preoccupied with the search for pleasure, for his own subjectivity and for his mother, both real and symbolic. It was a lonely and painful road, though often an exhilarating one. And in following it Barthes created his fourth and final paradox; of the writer and the critic who finds the only key to the texts of others in his own subjectivity.

What are we to make of it all? Susan Sontag is in no doubt; Barthes was the heroic aesthete whose work "appears to unfold with more grace and poignancy and with far greater intellectual power than that of any other contemporary". Annette Lavers is more cautious, or perhaps the massive effort of exegesis has left no strength for judgment. Her writing is itself, of course, a kind of compliment, though perhaps a risky one given its density and intensity. But here risks seem appropriate. Without them seduction is impossible.

Roger Silverstone is lecturer in sociology at Brunel University.

BOOKS

Irish questions

A Guide to Anglo-Irish Literature
by Alan Warner
Gill & Macmillan, £15.00
ISBN 0 312 35290 5

Anglo-Irish Literature
by A. Norman Jeffares
Macmillan, £14.00 and £4.95
ISBN 0 333 26015 2 and 26016 0

A character in one of Brendan Behan's plays famously defined an Anglo-Irishman as a Protestant with a horse. The nature and identity of Anglo-Irish literature is no less puzzling than that of this mysterious hybrid from history's bestiary.

Although the territory of Anglo-Irish literature has excited increasing interest among critics and scholars in recent years, it has lacked its definitive cartographers; even its borders, like those of Ireland itself, are still subject to dispute. These two new studies attempt, in quite different fashions, their own ordnance surveys but even here the boundaries do not coincide: Alan Warner is concerned with those writers who are "deeply involved in an Irish situation and writing out of their Irish experience" while A. Norman Jeffares describes "writing in English by Irish authors".

Professor Warner begins by paying some attention to the problems of defining Anglo-English literature and goes on to outline some of its main characteristics – its closeness to the oral tradition, its tendencies towards fantasy, its rootedness in place, its religious qualities, its puritan strain, and its humour and verbal extravagance. Although the examples are often lively and instructive, there is also a frustrating lack of clarity, perhaps because the book is never allowed to take itself seriously and keeps moving on as if afraid of boring the reader. For example, the connexion with the oral tradition is important and interesting, but to say that "in *Ulysses* the oral idiom is strongly present throughout the book" is both to invoke oral idiom rather loosely and to ignore such significant variations as those between, say, the "Cyclops" section and "Ithaca". The relation in Joyce between the written and the spoken word is a rich and fruitful topic which is why it cannot be handled adequately in a couple of sentences.

Yet at its best Professor Warner's book has the freshness of a response which is undisguisedly personal and which does not try to be either dogmatic or authoritative. Because he does not choose to be comprehensive, he is able to devote some space to the consideration of twenty authors from Maria Edgeworth to Seamus Heaney. Most authors are illustrated by representative quotations but, although Professor Warner does not entirely lack a cutting edge, his analyses are not always sufficiently attentive to the behaviour of words or the characteristics of style.

He is particularly disappointing on the great figures – Yeats, Synge and Joyce. Neither the cause of criticism nor the study of Anglo-Irish literature is much advanced by the revelation that *Ulysses* is both "a great bedside book" and "the ideal choice of reading for a desert island". Yet, if this book is really an amiable ramble, it still leaves one with a fairly strong sense of the landscape and a number of its distinguishing features. It also has the virtue of discussing in individual chapters a number of twentieth century writers whose stars do not shine very brightly in England – Patrick Kavanagh, Frank O'Connor, Austin Clarke, Mary Lavin and John McGahern.

Professor Jeffares's history is a very different work both in conception and execution. His approach is catholic and all-embracing and his treatment is both enriched and constrained by these terms of reference. Unlike Professor Warner, he has little time to quote at length or to savour the qualities of individual writers. He pays less attention to contemporary writers and his separate chapters on modern poetry, fiction and drama concentrate on writers who were born before the Second World War. As befits a volume in the Macmillan history of literature (of which he is also general editor) his book sets out to be comprehensive and, although its critical judgments are necessarily personal (see, for example, his account of Iris Murdoch) it aspires towards the authoritative. One of its most impressive achievements is its richness and range of detail – from the full and extremely useful chronology, which covers historical events as well as literature and biography, to the numerous accounts of the lives and works of writers who are little known outside the Anglo-Irish sphere. At times it verges on the encyclopaedic – we are given an epic roll-call of the scholars, folklorists, antiquarians and grammarians who helped to stimulate the Irish literary Renaissance and to create a new sense of Irish identity.

The book has a richer sense of background than Professor Warner's survey and pays much greater attention to the historical context; this includes an account of the complicated origins of modern Irish society and literature from the coming of Strongbow in 1170. There is a fairly strong sense of the socio-political context of the eighteenth and nineteenth centuries but some of this has to be read between the lines and as we approach the twentieth century the lacunae become more obvious and more frustrating. For a proper sense of historical context, the uninitiated reader would certainly profit from fuller accounts of the career of Parnell, the Gaelic League, the Easter Riding and the Civil War (only the first of which is listed in the index).

Professor Jeffares is probably at his best when dealing with the eighteenth and nineteenth centuries. Though he is very skilled at compressing, sometimes the pressures of space do seem to tell, especially when he deals with twentieth-century literature. Because he has chosen to include so many minor figures, the contours of the scene are not always easily distinguished; while we must be grateful for the scope of Professor Jeffares' scholarship, we could also welcome more generous accounts of Clarke, Kavanagh, O'Faolain, O'Connor, Flann O'Brien, Mary Lavin and Beckett and a fuller development of some of the fascinating themes and cross-currents which murmur below the insistent flow of the chronological narrative.

Professor Jeffares has done a great deal to encourage and foster the study of Anglo-Irish literature. It is fitting that he should be the author of a pioneering history such as this which, while it is not yet definitive, establishes the foundations for future study with such solidity.

Timothy Webb

Timothy Webb is reader in the department of English and related literature at the University of York.

Being well read

Books and their Readers in Eighteenth-Century England
edited by Isobel Rivers
Leicester University Press, £15.00
ISBN 0 7185 1189 1

Books and their Readers in Eighteenth-Century England serves to modify certain misconceptions. "It is not a contribution to literary theory; it does not concern itself with the problem of 'reader-response criticism', nor with the difficulties of the modern reader encountering eighteenth-century books", writes the editor. "It is not a contribution to literary criticism: it does not attempt to evaluate by literary criteria the different kinds of books with which it deals." Instead it offers information on the book trade itself (in a valuable survey by Terry Belanger, who is never drawn into misleading or tendentious statements) and provides five essays on various kinds of books – "the way in which they were designed for and read by specific groups of readers." Penelope Wilson looks at classical poetry, Thomas R. Preston at biblical criticism, Isabel Rivers at dissenting and Methodist books, John Valdimir Price at philosophical books, and G. S. Rousseau at science books.

Each essay is a reliable and informative guide to the state of current scholarship on its subject. At the same time, assumptions about readership are too often based on what authors suggest about the audience they expected. When objective evidence is so hard to come by this approach is unavoidable, but conclusions arrived at by these means cannot be treated as other than tentative. While we might agree with Professor Preston that "all the evidence points to an almost astonishing interest in religious works generally and biblical criticism specifically", we might not accept his including from this that the received interpretation of expanded biblical allusion could affect significantly the themes and structures of eighteenth-century novels. An author may well have deliberately employed typology, but there is no way of knowing whether it was picked up by his readers. Similarly, when Dr Price looks at what Hume said about the style of his own books, we are scarcely justified in projecting his views onto his readers, just because Hume had a preconception of an audience's needs, it does not follow that we can use his opinions as unimpeachable evidence of the way in which an eighteenth-century reader viewed a philosophical book.

G. S Rousseau's contribution goes beyond this sort of approach to offer genuine facts about science books. By 1730 or 1740, for instance, although a book of "literature" could be bought for a couple of shillings, "most science books averaged from four to ten shillings". He combines such useful information with pithy observations on the work that remains to be done on the eighteenth-century reading public ("It may be that the right questions have not even been put as yet") and the pitfalls which might result ("It is tempting, but risky, to hazard guesses"). The two remaining essays in this collection do succeed, however, in putting some of the right questions. In "Classics and chapbooks", Pat Rogers shows that only Bunyan and Defoe "provided texts that survived both as ordinary classics and stock items in the chapbook repertoire". Not even *Gulliver's Travels*, let alone *Pamela* or *Tom Jones*, belongs "to the world of the chapbook proper", which continued to offer more traditional fare such as tales of Jack the Giant Killer, Robin Hood or Tom Thumb. *Robinson Crusoe*, on the other hand, was quickly subsumed in this category, its author forgotten.

Professor Rogers's is a highly interesting essay, offering crucial information on the popular reception of Defoe's masterpiece from the manner in which, however the book was abridged or altered, it was "the fact of his condition as a castaway" which remained, while the religious elements of the narrative were excised. W. A. Speck's "Politicians, peers, and publication by subscription 1700–1750" deals with the other end of the market. Instead of chapbooks for the barely literate, he examines subscription lists to prove that the matter for the title that was published by subscription was cornered by the "quality". In itself this may not appear surprising, but it "substantially qualifies" the "widely accepted notion that the reading public in eighteenth-century England was overwhelmingly middle class". Professor Speck's analysis is also of great interest to political historians and to those who wish to describe the political ideas of writers like Pope, Swift and Fielding, as he demonstrates that, although "no connection emerges between types of books and the politics of subscribers", from the late 1720s "at least", some subscription lists might be better viewed as distinguishing between government and opposition rather than Tory and Whig.

When the study of books and their readers can result in this sort of invaluable evidence, it is indeed worthwhile.

J. A. Downie

J. A. Downie is lecturer in English at Goldsmiths' College, London.

Bruce Mitchell and Fred C. Robinson's *A Guide to Old English*, first published in 1964, has been revised. The new edition adds ten basic texts and a comprehensive glossary. (Blackwell. £15.00 and £5.95).

G. K. Chesterton, as portrayed by "Strickland" in 1912, taken from *In 'Vanity Fair'* by Roy T. Matthews and Peter Mellini (Scolar Press, £25.00).

Raising Rochester

Spirit of Wit: reconsiderations of Rochester
edited by Jeremy Treglown
Blackwell, £14.00
ISBN 0 631 12897 2

These essays, products of the tercentenary conference organized at Oxford in 1980, can be said to inaugurate Rochester criticism in England. They provide a thorough, original, and stimulating reconsideration or revaluation; the only previous criticism of comparable distinction is Anne Barton's 1967 British Academy lecture.

One of the advantages of writing on Rochester is that there is no received view. The total corpus of Rochester criticism is small, in part because of unavailability of adequate texts or a fixed canon before David Vieth's Herculean labours of the 1960s, and as a result earlier scholarship has largely had to concern itself with clearing the ground in order to make informed criticism (or informed reading) possible. These are the first essays, aside from Anne Barton's, to treat Rochester as an artist, and the first essays to take Rochester's stature as a significant poet for granted. For the first time, critics can proceed under the assumption that Rochester has found readers, and the tone of shared communal understanding that pervades the collection means that there need be no special pleading, defensiveness, or the peculiar possessiveness with which scholars sometimes defend their territory.

As Barbara Everett says in her excellent essay, "The Sense of Nothing", "a work of art is recognized by its incapacity to be absorbed wholly by the society which produces it, and which it represents admirably". The nine authors included in the volume all seek to define Rochester's peculiar voice as a poet, see him both as representative and as entirely individual. On the whole, however, the strength of the collection lies more in the critical examination of Rochester's poems than in the historical treatment of his age; none of the essays, for example, manages to get the relationship between Rochester and Dryden quite right. Those who, like Peter Porter and Barbara Everett, rely primarily on an alert eye for the significant detail and the telling comparison, reading Rochester's poems as they would read those of any poet in any age, have a surer touch than the authors of the more scholarly essays.

The professionals (those who cite Edward Stillingfleet and Thomas Shadwell rather than Larkin and Mozart) provide valuable information about Rochester's historical context, but more as a mine for others to dig in. Raman Selden presents all the information anyone could ever want about the complex literary wars in which Rochester and Shadwell were engaged, but doesn't succeed in making sense of the interesting materials he has unearthed (at the conference, Selden's paper prompted half an hour's discussion by ardent Shadwellians, a group I never knew existed before). Basil Greenslade's "Affairs of State", one of the most interesting essays in the volume, which wears its learning with admirable Rochesterian grace, serves as prolegomenon for a discussion of Rochester and politics, rather than providing that discussion itself.

The most original essay in the volume, Sarah Wintle's "Libertinism and Sexual Politics", combines the virtues of the critic and the scholar. Here the researches into contemporary historical backgrounds, as well as providing materials fascinating in themselves, are used to illuminate the poems, and the commentaries on individual lyrics are subtle and perceptive. This is one of the best essays in print on Restoration libertinism and sexual attitudes – in particular, on the shock of the male libertine when confronted with a woman who takes sexual liberation seriously. One of the great strengths of the collection – demonstrated in Treglown's own essay as well as those of Porter, Everett, and Wintle – is the way it takes Rochester's notorious obscenity in its stride. Rochester never loses his capacity to shock, but he is at last edging his way into the university syllabus, becoming familiar enough to take his place as a standard English poet.

Warren Chernaik

Warren Chernaik is lecturer in English at Queen Mary College, London.

BOOKS

Their own business

The Entrepreneur: an economic theory
by Mark Casson
Martin Robertson, £17.50
ISBN 0 85520 306 4

Professor Casson is dissatisfied with the treatment – or lack of treatment – accorded to the entrepreneur by orthodox economic theory. He seeks to remedy the existing depersonalization of the market process by developing a theory that recognizes the individuals:

> differ not only in their tastes but in their access to information . . . The entrepreneur believes that the totality of the information available to him, in respect of some decision, is unique. [Because of this he] believes that he is right, while everyone else is wrong. Thus the essence of entrepreneurship is being different . . . (page 14).

Almost the entire theory developed by the author rests upon this perception. The entrepreneur's superior knowledge in a given situation determines both his strategy and his success and thereby exerts a material influence on the allocation of scarce resources. Professor Casson's second major area of reconstruction is a consequence of his realistic appreciation of the difficulties and costs (denied in simple neoclassical theory) inherent in organizing a market. The first section is concerned with the functional role of the entrepreneur and with the development of basic concepts, particularly the concept of coordination, required to analyse it. Since the firm is the instrument through which the entrepreneur operates in a market economy, the second part of the study relates the theory of entrepreneurship to the theory of the firm. Finally, the author weaves together the threads of his argument, showing entrepreneurship in connection with such wider issues as social mobility and income distribution, and places his theory in the context of the work of those other rare economists who have accorded an important role to the entrepreneur. He suggests that in many respects his theory is a synthesis and logical extension of the theories of Leibenstein, Hayek, Kirzner, Knight, Schumpeter, Andrews and Penrose.

In contrast to the great majority of economists, who have neglected the entrepreneur, the economic historian has always recognized his critical role in economic development. Business historians will undoubtedly appreciate the validity of many of the concepts and ideas developed and discussed in this book, though it is questionable whether they will immediately comprehend all the formal models, utilizing neoclassical assumptions and techniques, with which it is punctuated. Economic historians will be disappointed by Professor Casson's decision "to dispense with case studies which shed light on the historical processes in which entrepreneurs are involved" (page xiii), as the provision of such examples might have gone some way to bridging the gap which regrettably continues to exist between economics and economic history. Economic historians and economists would both have benefited from additional illustrations; the former from being forced to give greater precision to their often ill-defined concepts, and the latter from a demonstration of the unreality of many aspects of neoclassicism.

This study gives the impression of having been published in too much of a hurry. The style is leaden and despite its length this book has many hallmarks of a progress report. Much remains to be done both to broaden and deepen the theory. Only then, I suspect, will his fellow economists be prepared to integrate the entrepreneur more fully into mainstream economic theory and economic history. Casson's work. A pioneering study such as this deserves specific footnotes and proper references; it is simply not good enough to provide a select bibliography and expect the sympathetic reader to locate supporting arguments and illustrations solely by means of the largely unannotated general citations at the end of each chapter.

Professor Casson's analysis seems much more penetrating when applied to the small firm in the early stages of its existence than to the large-scale corporate concerns into which the more successful family firms almost invariably become transformed. As a guide to the true nature of the role of the entrepreneur in the newly-founded, small familial business, Professor Casson's study is of great worth, but despite the author's awareness of the seminal work of A. D. Chandler it is frequently difficult to relate his ideas to the corporate giants that dominate the majority of today's national economies.

P. L. Payne

P. L. Payne is professor of economic history at the University of Aberdeen.

Trade's proud empire

The Birth of a Consumer Society: the commercialization of eighteenth-century England
by Neil McKendrick, John Brewer and J. H. Plumb
Europa, £18.50
ISBN 0 905118 00 6

That demand played as significant a role as technological advance in the great acceleration of British economic development commonly known as the Industrial Revolution has been recognized for a long time; but the ways in which that demand was stimulated, beyond the mere increase of population and real incomes, has been relatively little studied.

The thesis of the three contributors to this symposium is that demand in eighteenth-century England was consciously inflated by a new spirit of commercialism that gave birth to a whole range of innovations in advertising, salesmanship, and fashion exploitation. To these stimuli were also added entirely new areas of demand conjured up by the popularization of politics (political publishing), a more sympathetic approach to the needs of children (children's literature, clothes and toys), and new-found enthusiasms for garden plants and pedigree animals.

Neil McKendrick devotes his lion's share of the book – almost two thirds – primarily to an examination of the marketing techniques of Josiah Wedgwood. Wedgwood observed that, in the context of eighteenth-century European society, emulation of one's social superiors played an important part in the pattern of demand for consumer goods, and he discovered that once he was able to persuade the aristocracy to acquire and display his products, orders from the lower echelons of the social hierarchy would soon come rolling in. So he assiduously courted the highest social groups starting, as is well known, with the Empress of Russia. To illustrate the development in the late eighteenth century of advertising techniques McKendrick devotes a further long chapter to an amusing review of the publicity antics of a very minor industrialist – George Packwood, maker of razor strops.

In the second part of this book John Brewer considers the impact on the publishing trade of the growth of a wide market for political pamphlet literature. While he contributes much fascinating information about this literature his contribution to the book's general theme is minimized by the fact that his interest is patently in political rather than in economic and social history, by the restriction of his analysis largely to the Wilkes affair of 1768–72, and by the fact that the trend he considers, however novel and interesting in a political context, can have made only the most marginal impact on the growth of the national economy. Sir Jack Plumb completes the symposium with three concise essays on "the commercialization of leisure", "the new world of children", and "the acceptance of modernity", the last of which turns out, rather surprisingly but none the less entertainingly, to involve the growth of businesses catering for the new-found interest in bloodstock, pedigree herds and scientific horticulture.

This is, therefore, an original and diverting symposium that draws our attention to hitherto little considered corners of eighteenth-century social and economic history and urges their importance in the wider context of industrial growth. Its value for social and economic historians is diminished, however, first, by the patent marginality to the economy as a whole of many of the sectors the contributors have chosen to illustrate their main theme; and, second, with the exception of Plumb's succinct essays, by excessive garrulity. In particular, McKendrick's fifty pages on Packwood's advertising make unnecessarily prodigal use of expensive space, while his other lengthy chapters overlap considerably, and are shapeless and rambling. His nearly two hundred pages would make their points infinitely more effectively in one third of the space.

None of the contributors really grasps the nettle of real income levels. Unless per capita real incomes were rising in the period they are writing about, the new techniques of marketing, advertising and fashion exploitation could do no more, all other things being equal, than switch consumption from one group of products to another with no overall gain to the economy. McKendrick's glance at the problem of purchasing power is too cursory to satisfy on this point. While it might be possible to argue that the real incomes of the middle and upper classes rose in the second half of the eighteenth century, it is less easy to demonstrate this for the majority remainder of the population; and McKendrick's case is quite specifically that "emulative spending . . . combined with the widespread ability to spend . . . to produce an unprecedented propensity to consume: unprecedented in the depth to which it penetrated the lower reaches of society and unprecedented in its impact on the economy" (page 11).

The book's thesis would have been more effectively sustained had this kind of confident assertion been more rigorously pursued.

M. W. Flinn

M. W. Flinn is emeritus professor of social history at the University of Edinburgh.

Union dues

Trade Unions in British Politics
edited by Ben Pimlott and Chris Cook
Longman, £6.50
ISBN 0 582 49184 3

This is an historical review of the political role of trade unions in Britain from the earliest times to the present day. Its contributors include historians, political scientists, a media sociologist, a former permanent secretary to the Department of Employment, an Althusserian Marxist, the labour correspondent of a national newspaper, and a director of the Bertrand Russell Peace Foundation.

Its strength is that it fills something of a gap in the literature, since there is no definitive account of trade union involvement in politics from the origins of unionism to the present time. Its weakness is that there is no underlying theme, and this is particularly evident in part two of the book which discusses developments since 1945. Also it does not go beyond an institutional/descriptive approach, which prevents it from addressing some of the key theoretical issues in this area such as: why has the trade union movement experienced a rapid growth in membership and influence in Britain since the war, when this has not occurred in other countries, notably the United States?

Part one provides a chronological account of the role of unions up to 1945. Papers by Chris Wrigley and Dennis Barnes and Eileen Reid show the key role played by world war in increasing the political involvement and influence of unions. In wartime, governments need to recognize and incorporate the unions in virtually all areas of state activity, if they are to win the war on the home front. Wrigley in particular points out the importance of a favourable labour market in wartime conditions, which enhances the bargaining power of the unions. But the conditions which enhanced union power during the First World War were transient, and many of the gains made then were lost, as Patrick Renshaw points out, in the depression years of the twenties and thirties.

Other papers in part one discuss early trade unionism, the well-researched subject of the role of the unions in establishing the Labour Party, and the rise of government intervention in industrial disputes during the Liberal Governments of 1905 to 1914. Of these, the paper by John Stevenson on early trade unionism is perhaps the most disappointing, because it does not address itself to the key question, why it took roughly a hundred years after the start of the industrial revolution for the first successful union, the Amalgamated Society of Engineers, to be established. Again, this question can only be answered within a wider comparative framework.

In part two, Ken Coates reviews some of the experiences of the unions in trying to operate incomes policies before 1960, and links this with the rise of the shop stewards movement. The postwar consensus, which maintained full employment up to the late sixties, considerably enhanced trade union bargaining power, but also made them more directly responsible for economic performance. Robert Taylor argues that increasingly after 1960, the unions became scapegoats for the relative economic decline of Britain. But his paper is a blow-by-blow account of union conflicts over industrial relations and incomes policy with various governments, rather than an attempt to assess whether or not trade unions actually do cause inflation and restrain growth and innovation.

Ben Pimlott provides an interesting case study of the role of trade unions in the revival of CND, illustrating the important point that union involvement in politics is not merely limited to the Whitehall nexus, and to industrial and economic affairs. There is also an interesting piece by Barry Hindess, reappraising, and in part repudiating, his "decline of working-class politics" thesis published in 1971. In this paper, he raises some important theoretical questions about the nature of interests and representation, but unfortunately comes close to arguing that social changes are as much a product of Labour politics as a cause of them. The National Executive Committee of the Labour Party has been accused of many things, but never responsibility for the decline of the percentage of manual workers in the occupational structure!

The volume concludes with a very interesting piece by Jean Seaton on trade unions and the media, which throws considerable light on a controversial but murky area.

Paul Whiteley

Paul Whiteley is lecturer is politics at the University of Bristol.

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CAMBRIDGE UNIVERSITY PRESS

BOOKS

Party lines

Moderates and Conservatism in Western Europe
edited by Roger Morgan and Stefano Silvestri
Heinemann Education. £14.50
ISBN 0 435 83615 3

The Impact of Parties: politics and policies in democratic capitalist states
edited by Francis G. Castles
Sage. £17.95
ISBN 0 8039 9787 n

The unity of the left in Europe has been the subject of many studies. The unity of the right has attracted less attention. Do the conservative and Christian Democrat parties of Britain, France, Italy, West Germany and Spain share a common outlook? And what of the centre? Does liberalism mean the same thing in Westminster and Bonn? These are the questions posed in the symposium edited by Roger Morgan and Stefano Silvestri for the Policy Studies Institute, and the result is a stimulating and useful book.

The chapters on the individual parties will satisfy the perennial need of teachers and students for clear and up-to-date information, although it is a sobering thought that even since the book went to press important changes in the position of right-wing parties have taken place in Spain and West Germany. The chapter by Jacques Mallet, on the "Gaullo-Gaullist" party or the Union for French Democracy (UDF) is particularly valuable, given the scant amount of material available on this subject. This party also turns out to be one of the few on the right which has a clear-cut view about the future evolution of European integration. I found myself a thoroughgoing Giscardian by the time I had finished Mallet's account.

Analysis of the national parties is followed by three comparative chapters. The first of these, on the development of transnational links between the various European parties of the right, is again of great interest. Much has been happening here during the last dozen years, and even if the resulting organizations are not particularly strong, the debates that have arisen around them bring out well the points of affinity and friction between the various parties. The main resistance to close cooperation between the British Conservatives and the Christian Democrat parties has patently come from the Dutch, Belgian and Italian Christian Democrats, and the reason for this opposition – a mixture of domestic policy considerations, ideology, and a concern over "image" – is clearly set out.

The next chapter attempts to assess the measure of agreement between the European right-wing parties on the priorities of economic policy. The author wisely emphasizes that there is considerable covergence over general principles, but this does not mean that in a given situation the parties will act in a similar way. The book is brought to a close by a characteristically lively essay by Pierre Hassner comparing the attitudes of the conservative parties to NATO and security. His conclusion is rather bleak: the policy of most of the parties "seems to be based more on successive reactions and adaptations to events, domestic or international, than on any grand design whether of the de Gaulle or of the Adenauer type".

The volume edited by Francis Castles on *The Impact of Parties* belongs to a quite different style of political analysis from the PSI study. While the latter is basically comparative contemporary history, the former follows the American tradition of political science. Its emphasis is on testing hypotheses by looking at a wide range of examples, and by relating independent variables to dependent variables, using statistics wherever possible. It is not easy reading.

The authors of the six essays that make up the book come from Britain, Germany and the Netherlands. The central question they ask is: how far are variations in government policies in developed western states a function of changes in the party composition of the governments concerned? The policy areas chosen are public expenditure, macroeconomic policy, defence, the regulation of wages, and the distribution of incomes, and the number of countries chosen for the process of comparison and evaluation varies from 14 to 21.

The conclusions of the studies are modest. Partisan control of government is seen to be a major determinant of public expenditure policy; extra-parliamentary "corporatist" structures are seen to be of importance in determining success and failure of policies for employment and price stability, and so on. There is a kind of gritty integrity in the determination of the authors to wade through the enormous quantification problems they have set themselves. On the other hand there is also a surprising amount of tendentious phrase-mongering from authors purportedly trying to be rigorously objective, and also a large dose of naivety.

More importantly there arises a constant, nagging suspicion that the questions posed by the authors could be answered in a far less cumbrous and tortuous manner than they are.

Murray Forsyth

Murray Forsyth is reader in politics at the University of Leicester.

Attitudes to Russia

Britain and Soviet Communism: the impact of a revolution
by F. S. Northedge and Audrey Wells
Macmillan. £15.00 and £6.95
ISBN 0 333 27192 0 and 27193 9

This is really two books, one on state-to-state relations, the second on cultural and economic relations. Besides being formally in two parts, the division is reinforced by the authors' rejection of the idea that a country's foreign policy tends to reflect its internal structure, which in the case of the Soviet Union, is admitted to be a dictatorship resting on force. They offer little to support this rejection, and hardly could for Russia given their assertion, made with scant regard for Sovietologists, that our knowledge of the Soviet system is "minimal".

Part one offers a history of diplomatic relations, sometimes shaky in its grasp of detail. On the Locarno treaties of 1925 they come to the right conclusion – that Soviet Russia regarded them as a threat – for the wrong reason: that they did not guarantee Germany's eastern frontiers. If the treaties had guaranteed the Polish-German frontier in particular, Russian leaders would undoubtedly have been even more alarmed, seeing them then as a full-scale anti-Soviet alliance.

Still on guarantees, they repeat the persistent myth that Britain and France guaranteed what remained of Czechoslovakia after the Munich Conference, and argue that failure to honour this "guarantee" when Hitler marched his troops into Prague in March 1939 must have reinforced Stalin's doubts about whether the western powers could be trusted. In reality, whatever the moral obligation, there was no such guarantee. Much in British foreign policy in 1938-39, and especially its handling of relations with Russia, was foolish and disastrous. That is all the more reason not to depict it as even worse than it was.

The entire approach is one of readiness to criticize British foreign policy-makers severely when they are felt to deserve it while putting the most favourable possible construction on the actions of their Soviet counterparts. As always in this type of treatment, those historians, such as Marshall Shulman and Vojtech Mastny, who have examined such evidence as there is about Soviet foreign policy and tried to reach conclusions based on facts, are completely ignored. Instead there are statements of pro-Soviet moral indignation. Some of these are demonstrably misconceived, as when they argue that Soviet annexations between 1939–45 and the setting up of client-states in most of Eastern Europe were so reasonable in view of Russian war losses and security needs that any Soviet leader acting differently "would have been massacred by his own people and justly so." Setting aside the last three words, they appear not to know that Stalin's grip on Russia then was so tight that he did not have to pay the slightest heed to the views of the Soviet population in deciding his policy in eastern Europe. They are right in their plea that we should examine all possible evidence before making judgments about Soviet foreign policy, but that is not what they have done.

Part two, mostly about Soviet influences on British domestic politics and cultural life, is more successful. The Labour Party was the great gainer in Britain from the Bolshevik Revolution. On the one hand, the revolution reinforced, as in most countries, the cause of greater social equality for which the party stood, no matter how imperfectly that goal was ultimately to be realized in Russia itself. On the other, Labour leaders' genuine abhorrence of the Bolsheviks' rejection of democracy increased their acceptability to the electorate.

The attitudes of Russophobes and Russophils are well-described. There is an interesting contrast between the Russophobes of the 1920s and the revived Russophobia of the late 1940s. The former were mostly Conservatives who hated the Bolsheviks as a portent of what might happen in Britain and paid little attention to actual events in Russia. Those of the later period were drawn from across the social and political spectrum (except for Labour's far left and, obviously, the Communists), and were more appalled by small incidents, especially the denial of exit visas to Russian women who had married British personnel in wartime Russia, than by the grand sweep of Stalin's policies.

There are some good passages on the shallow infatuation with Russia of many British intellectuals in the 1930s, though whether Guy Burgess was one of "the brightest and best of British society" is debatable. Since the mid-1950s the attitudes of the British public towards the Soviet Union have been rather elusive, a combination of indifference, a vague goodwill, and at the same time thankfulness that they themselves are not living under the Soviet system.

Victor Rothwell

Dr Rothwell is lecturer in history at the University of Edinburgh.

A questing mind

The Government and Politics of Britain, fifth edition
by John P. Mackintosh
revised and updated by Peter Richards
Hutchinson. £4.95
ISBN 0 09 145531 6

John P. Mackintosh on Parliament and Social Democracy
edited by David Marquand
Longman. £7.95
ISBN 0 582 29587 4

John P. Mackintosh on Scotland
edited by Henry Drucker
Longman. £6.95
ISBN 0 582 29574 2

Anyone seeking a perspective on British politics and society in the period of the decline of the Labour Party will find these writings of the late Professor John Mackintosh, who was Labour MP for Berwick and East Lothian, most valuable.

His 1970 textbook on *The Government and Politics of Britain* is now published in a fifth edition, revised and updated by Professor Peter Richards of Southampton University. The revision has been largely factual, but brings the last section on the political parties reasonably up to date. The book remains the best of the many general texts on British government and politics to be published in the last twelve years or so. Its central theme (derived from Mackintosh's earlier work on the British Cabinet) of the pressures to which a nineteenth-century model of liberal parliamentary government has had to accommodate and the extent of its success, lifts the book well above descriptive analysis.

The other two books are the more interesting, especially in the context of a changing British political scene. The first, a selection of articles and lectures on the themes of Parliament and democracy, is edited and introduced by David Marquand, who inevitably, I suppose, questions whether Mackintosh would still be in the Labour Party had he lived, and whether the Gang of Four would not have been a Gang of Five. Certainly in this selection the congruence of views between Mackintosh and leading members of the Social Democrats is remarkable, as is his record as a right-wing Labour MP. All the key problems of recent British party, parliamentary and industrial politics are raised in these essays – perhaps with too much trust in institutional reform as solutions for fundamental problems for my own taste.

Other sections demonstrate clearly the attempts of a good mind and sensitive conscience to come to grips with some of the antitheses and contradictions inherent in membership of the Labour Party, which David Marquand ably elaborates in a long introduction. The agonizing is there, and it would have become more intense if John Mackintosh had lived into the 1980s. The loose ends and inconsistencies in the different essays and between them, are as much the product of a questing mind with an affinity for fundamental inquiry as of the inevitable paradoxes of socialist thought. (I must say that to some extent with Mackintosh, as indeed with Marquand and with the prime exemplar, Shirley Williams, it is possible to become impatient with the over-elaboration of argument and of detailed justification which seems to be the hallmark of this particular brand of modern politics.)

To read the second collection of Mackintosh's essays, lectures, and broadcasts on Scotland, sensitively introduced and edited by Henry Drucker, his colleague in the politics department of Edinburgh University, is to conclude that Marquand would have been disappointed. Mackintosh was first and foremost a Scot, and his basic attitudes reflected this fact. He never held a post in an English university, and although he moved easily in English public life, his roots and his benchmarks were essentially Scottish. Anyone who, like myself, had the inestimable advantage of being educated in one Scottish university and of starting his lecturing career in another, will know something of the singular nature of Scottish society, in particular its essentially democratic character, predicated not on material equality but on an equality of esteem and regard which parallels the USA, whose social arrangements and attitudes Mackintosh so much admired. Much of his disillusionment when he moved to a wider stage derived from his awareness of the essentially undemocratic nature of English society, which is inbred and which I doubt will ever be seriously modified.

The Scottish Labour party, too, is altogether a more serious entity than its English counterpart – even to the point of threatening UDI in the face of the recent shenanigans south of the border. Together with his ambitions in any future Scottish Assembly (and why not – one can think of no one better fitted to lead it) these considerations I think would have ensured his continued allegiance to Labour.

But this sort of speculation is very much secondary to the content of these volumes, which should be read for their intrinsic value – the workings of a mind and the expression of a personality which had an infallible instinct for the right and decent decision, a quality which has been absent in much of British politics for some time now. He graced both academic and public life. He is very much missed.

S. A. Walkland

S. A. Walkland is professor of politics at the University of Sheffield.

Modern Germany

West Germany: a contemporary history
by Michael Balfour
Croom Helm. £14.95
ISBN 0 7099 0664 1

Foe into Friend: the makers of the New Germany from Konrad Adenauer to Helmut Schmidt
by Marion Dönhoff
Weidenfeld & Nicolson. £10.95
ISBN 0 297 78058 1

In recent years the study of Germany has attracted an ever increasing number of British scholars, and a great deal has been published on the German Empire, Weimar and the Nazi regime. The contribution made by British scholars to the study of these periods has attracted considerable attention in Germany itself. Histories and historians of postwar Germany have been much rarer. This is partly to be explained by the attraction of the rich primary sources for the earlier periods, but the sense of intellectual excitement engendered by the competing explanations of the historians of the earlier periods has undoubtedly helped to encourage research.

English-language histories of postwar Germany are difficult to find. Most teachers have relied on Alfred Grosser, who continues to revise his books at fairly regular intervals and always provides an excellent and up-to-date bibliography. A satisfactory history of this period would explain why the Federal Republic was created, why it took the specific form it did, why the economy has performed as well as it has done and why its political institutions and practices have proved to be so stable. Michael Balfour's *West Germany: a contemporary history* goes some way towards this. As readers of Professor Balfour's earlier publications would expect he is particularly good on the occupation period and the events and considerations that led to the creation of the Federal Republic. His account of the development of the economy, though, is cursory and fails to explain in any depth the context in which economic policy evolved.

Professor Balfour concentrates on giving the reader a careful and reliable narrative of the major events. This means that the student for whom his book is intended will have very little idea of the character and texture of political life in the Federal Republic and why it has proved to stable. To take an important example, there is no analysis of the extent to which West Germany has developed as a "party state" and what the implications of such a development are for the performance of political institutions.

Professor Balfour's work is a sober, reliable and in places thoughtful guide to the history of contemporary Germany. In that sense it will be very useful for teaching. Its major weakness lies in its failure to inform students about rival explanations of postwar history and to make explicit the reasons why he has adopted his approach. The result is a worthy and useful book but one which fails to arouse the sort of excitement which historians of earlier periods have been able to generate.

It is normally a mistake to publish books on political events and personalities in translation since the assumptions and background knowledge of the readerships will be quite different. Countess Dönhoff's canter through postwar German history and personalities has all the appeal of a rehearsed soufflé. Any interest it has lies in its illumination of the restricted mental world of a socially exclusive well-meaning liberalism. Consider for example the statement on page two:

> No one nowadays uses the word 'fatherland'. No one can bring himself to pronounce it. Not only because during the Nazi period it was perverted and stained with blood, but also because it belongs to a world which no longer exists today.

Are you listening Dr Kohl?

W. E. Paterson

Dr Paterson is reader in politics at the University of Warwick.

BOOKS

Radical appeal

Herbert Marcuse and the Art of Liberation
by Barry Katz
New Left Books. £14.50 and £4.50
ISBN 0 86091 050 4 and 750 9

Barry Katz's book is described as "an intellectual biography." It is a judgement of Marcuse's life and work and not only on the public record of the philosopher's writings but on discussions between the author and his subject held between 1976 and 1978.

The prospect for such a work is inspiring. Few thinkers would seem to be more suitable cases for the intellectual biography treatment than Marcuse, whose appropriations – or, as he would say misappropriations – of themes and concepts from such cultural traditions as phenomenology and psychoanalysis were welded together by a powerful, single mind under the pressure of historical circumstances into an interpretation of the world of man in the twentieth century which exerted a mighty appeal during the heady days of the late 1960s and early 70s.

The astonishing spectacle of many students, whose banners bore the motto "Marx, Mao, Marcuse", looked for a while of Marcuse what he had always claimed that his critical theory of society could be – the political embodiment of the revolutionary tradition in an age that has apparently been kind to its deepest contradictions. Marcuse's philosophy appeared to its youthful readers to combine the love of wisdom into the path of love, and though he always rejected the anti-intellectualism of the New Left Marcuse's unique synthesis of Marx and Freud – in which the Marxist element was always predominant – did in fact provide an emotionally and ideologically convincing solution to would-be radicals who were understandably repelled by the cold comfort of communist scepticism.

Katz traces the course of Marcuse's life from his birth in Berlin in 1898, through his early years of study, his collaboration with Heidegger, and then with Max Horkheimer at the Institute for Social Research, his wartime service in American intelligence, the postwar years in the USA, and finally the period of unexpected fame which ended only with his death back in Germany at Starnberg in 1979. Much of what Katz writes is interesting enough but the core of his book is too celebratory and insufficiently critical, in the political sense, to make it what it pretends to be. An adequate intellectual biography of Marcuse would have to examine the intellectual influence to which he was apparently subject from a perspective other than Marcuse's own. As it is, Katz finds himself forced into providing perfunctory sketches of the ideas of thinkers like Heidegger and Freud which give the reader little idea of the violence which Marcuse did to the meaning of their terms when he appropriated them for his own purposes.

The examination of Marcuse's writings on literature and aesthetics, from the 1922 thesis on the theory of modernity as represented in the German *Künstlerroman* to his last book *The Aesthetic Dimension* (1977), confirms the impression that Katz lacks the critical distance from his subject necessary to the successful writing of the book he evidently intended. Katz proposes in his introduction that:

> the work of the Marxist Herbert Marcuse can best be understood as an attempt to articulate a dimension of life and a corresponding domain of consciousness in which a frankly transcendent standard is operative. This suggests not a metaphysical quest, however, but a political one, for the practical function of this theoretical construct has been to provide a standard of criticism against which the prevailing reality may be judged and condemned in terms of its own potentialities . . . although philosophical and psychoanalytical categories provide the vehicle for his quest at important stages in his career, the clearest access to this dimension has been through the work of art.

Consequently Katz promises that the primacy of aesthetics in the development of Marcuse's thought will be central to his argument. In fact, the aesthetic dimension seems to surface only when Katz is discussing writings in which Marcuse deals explicitly with the place of art. Elsewhere, as in *Reason and Revolution* for example, one would be hard put to find evidence of Katz's thesis and, predictably therefore, he makes no attempt to corroborate it in his brief discussion of what is probably Marcuse's most enduring work. The lapse is all too typical of the opportunities missed in this disappointing book.

David J. Levy

David J. Levy is lecturer in sociology at Middlesex Polytechnic.

Removing confusion

Wittgenstein
by G. H. Von Wright
Blackwell, £12.00
ISBN 0 631 13099 3

Wittgenstein on Rules and Private Language
by Saul A. Kripke
Blackwell, £9.50
ISBN 0 631 13077 2

Although they have a common subject-matter these two books view the work of Wittgenstein from very different perspectives, and, in so far as they throw light on his philosophy, do so in rather different ways.

G. H. Von Wright's book consists of a collection of essays dedicated to the memory of his friend and teacher. None is published here for the first time and some, in particular the superb biographical sketch which opens the collection and which first appeared in Norman Malcolm's *Memoir*, will be familiar to students of the author's work. Von Wright is, of course, one of Wittgenstein's literary executors, and three of the essays republished here are concerned with the details of the philosopher's *Nachlass*. They include a lengthy account of the historical circumstances surrounding the publication of the *Tractatus*, which though it does little to illuminate the contents of that work, does nevertheless paint a vivid picture of the difficulties which Wittgenstein faced in publishing it and of his state of mind at the time. Because of Von Wright's unique knowledge of this field all three essays will be of great value to Wittgenstein scholarship, though perhaps they will be of less interest to those who wish to understand his ideas or personality.

The same cannot be said of the other essays in this collection, for all except the last are concerned to explore specific themes in Wittgenstein's writings, the first two dealing with issues raised by the *Tractatus* and the third a discussion of the book *On Certainty*. As Von Wright himself notes, those who have followed the recent extensive discussion of this work will find little which is original in the latter essay, but it is nevertheless one of the most lucid short treatments of Wittgenstein's work on the topic of certainty.

The final essay, "Wittgenstein in relation to his time" is perhaps the most interesting in the collection, and, I should have thought, most likely to cast light on Wittgenstein's approach to philosophy. In it Von Wright attempts to show that one fairly well-known aspect of Wittgenstein's personality, his contempt for contemporary industrialized society and for the effect of western technology is related to a central theme of his philosophy, the idea that an individual's beliefs, judgments, thoughts are founded in forms of social life. For it is an apparent corollary of this thesis, and one which Wittgenstein himself sometimes draws, that philosophical confusion (which he sees as having its roots in language) can sometimes only be removed finally by a change in the lives which people lead. Thus Wittgenstein's distrust of contemporary society and his fight against certain sorts of philosophical confusion may be seen, Von Wright suggests, as two sides of the same coin. Von Wright does have some doubts about this claim, and one may wonder whether the idea of removing a philosophical confusion once and for all makes much sense. Nevertheless Von Wright is dealing here, albeit briefly, with a neglected aspect of Wittgenstein's thought, and one which raises important questions.

Unlike Von Wright, who is concerned with several different aspects of Wittgenstein's thought, Kripke concentrates on one particular work, the *Philosophical Investigations*, and on the particular theme in that work which is generally referred to as the "private language" argument. Discussions of this argument, Kripke suggests, have often ignored the questions which led Wittgenstein to propound it, and have treated it as simply the presentation of a sceptical paradox. But even if Wittgenstein's conclusion is paradoxical, Kripke holds it to be a necessary consequence of the attempt to solve a far more fundamental problem about the nature of language.

Roughly speaking, the problem arises because certain considerations seem to show language itself to be impossible. For when a child learns the rules for applying a certain word, although it is taught to apply it only to a limited number of examples, it will also be expected to be able to apply it to cases which have never before been encountered. In some such cases we shall say that the child is using the word in accordance with the rules it was taught, in some cases not. But the question now arises: since *ex hypothesi* these rules were not taught with *these* cases in mind, in what sense can they be said to apply to them? And if there is no answer to this question, is not the child's procedure completely arbitrary?

Following Wittgenstein, Kripke considers various answers to this question, only to reject them. So we seem to be forced to the conclusion that in so far as we consider the child in isolation, we can say only that he applies the word as he does, because it strikes him as the right way to apply it. But this is clearly inadequate since it leaves no room for the notion of mistake, a notion which can be introduced only in so far as we are willing to make reference to the judgments of others. Thus we see that the original problem about rule-following can be resolved only by a recognition that language is essentially a social activity. It is from this recognition that Wittgenstein's observations concerning the impossibility of a private language are derived. Far from being themselves paradoxical, they are the only way of avoiding the genuinely paradoxical conclusion that there is no such thing as being guided by rules in our use of words.

It should be apparent from even this brief account that Kripke's interpretation of the *Investigation* is by no means original (indeed it is substantially that offered by Peter Winch in *The Idea of a Social Science*). Nevertheless it does represent a detailed examination of what is clearly a central theme in Wittgenstein's writings. The same does not seem to be true of the postscript to the essay, which is concerned with Wittgenstein's treatment of the problem of other minds and which appears sketchy and unfinished. The fact that in some respects the whole book has this appearance – for instance the text often fights a losing battle with the footnotes – should not prevent anyone from reading it, but it certainly makes it much more difficult to read.

R. W. Beardsmore

R. W. Beardsmore is lecturer in philosophy at the University College of North Wales, Bangor.

Hebert Marcuse, a photograph taken from Bryan Magee's *Men of Ideas: some creators of contemporary philosophy*, recently issued by Oxford University Press as a paperback at £3.50.

Relatively speaking

Rationality and Relativism
edited by Martin Hollis and Steven Lukes
Blackwell, £16.00 and £6.50
ISBN 0 631 12773 9 and 13126 4

Relativism is one of the hardy perennials of philosophical debate. In the past twenty years or more, its temptations have seemed newly attractive because of empirical studies of alien thought-systems, by social anthropologists and by historians and sociologists of science, which have not merely argued for the viability (in their contexts) of beliefs which by our best current criteria should be considered untrue or irrational, but suggested that a suspension of those criteria was necessary for a proper understanding of them.

This collection of papers, which brings together contributions by philosophers and social scientists, is a conscious sequel to an earlier one edited by Bryan Wilson (*Rationality*, 1970). Several authors appear in both: Hollis and Lukes themselves, Ernest Gellner, and Robin Horton, whose 60-page essay "Tradition and Modernity Reconsidered" is a detailed review of the contentions of his influential 1967 essay, "African Traditional Thought and Western Science," (the bulk of which appeared in Wilson's collection) now stand. Overall, this is a better integrated collection, with most of the essays commissioned for it and making a good deal of cross-reference to one another. There is an excellent introduction by the editors reviewing the spectrum of positions taken by the contributors and a judicious concluding essay by Lukes, arguing against relativism but seeking to clarify the valid parts of the relativist case.

In Wilson's collection the siren's song of relativism came chiefly in the accents of Wittgenstein (mediated by Peter Winch); now it owes more to Kuhn, in an opening contribution by Barry Barnes and David Bloor, sociologists of science. It seems appropriate that the empirical study of belief-systems should be drawn to relativism, for it is directed at understanding their very otherness, just as philosophy should be most drawn to oppose it, since it must focus on the consequences of the fact that we are the subjects of the understanding. But, interestingly, this alignment of disciplinary interest and theoretical attitude is not complete. Among the philosophers, Martin Hollis and W. H. Newton-Smith do argue strongly against relativism, on the grounds that it would make the enterprise of trans-cultural and trans-theoretical understanding incoherent, but Ian Hacking argues for it, on the basis of an "anarcho-rationalism" which owes much to Paul Feyerabend's critique of methodological dogmatism. Conversely, among the social scientists, Dan Sperber and Horton decline to share Barnes's and Bloor's relativism. Sperber states the irony neatly: "the best evidence against relativism is, ultimately, the very activity of anthropologists, while the best evidence for relativism seems to be in the writings of anthropologists."

However, one comes to sense that for the social scientists, at least, the *real* problem is not "relativism" in general, but a more specific and, for them, methodologically pressing question. This is the postulate of the "symmetry" of beliefs, stated thus by Barnes and Bloor: "all beliefs are on a par with one another with respect to their credibility . . . regardless of truth and falsity, the fact of their credibility is seen as equally problematic." This is what they most want to defend in "relativism", and on this question they find allies in such social-scientific opponents of relativism as Jon Elster (who boldly sets out a programme for the empirical study of error and illusion) and Horton. Lukes too argues that no compelling case can be made for the asymmetrical analysis of individual beliefs; but (as Gellner argues most forcefully) can the adoption of the habits of thought characteristic of modern science possibly be explained without some reference to the superior practical powers they confer?

That this is so is a basic presumption of Horton's argument. He reviews three lines of criticism of his 1967 paper: for the comparison of African traditional thought and modern science being made at all, and for both the continuities and the contrasts he saw between them. Those critics who said he was not comparing like with like, particularly anthropologists who give a "symbolist" interpretation of African relation, are rather brushed aside. Wilson's 1970 collection had a contribution by a prominent "symbolist", Beattie, but here symbolism is treated by Sperber, who is hardly against Horton since he is concerned to give a cognitive and developmental account of it, as a way of dealing with information that exceeds a society's conceptual capacities. Horton yields most to his critics on his use of Popper's "open"/"closed" dichotomy to characterize the contrast between the two kinds of thought. His clear and subtle reformulation of the contrast – in terms of traditional vs progressivistic conceptions of knowledge, linked with consensual vs competitive modes of theory elaboration – will doubtless attract much debate – and I suspect that the criticism will chiefly fall on his treatment of social thought, both traditional and modern.

Finally, the most singular contribution, Elster's, should be noted. Not only does it stand somewhat aside in its references from most of the others, but it takes a most original attitude towards the tradition it espouses: Marxism. It develops models of the ways in which "hot" (affective) and "cold" (cognitive) components may combine to produce beliefs, in order to provide underpinnings for a Marxian theory of ideology. But Elster proposes methodological individualism to check Marxism's tendency to posit "hidden harmonies" between belief systems and social orders, and severely repudiates such concepts as "false consciousness", with their implication of an asymmetrical treatment of beliefs. This way, one feels, Marxism might at last make some headway in its theory of ideology. His assertion that "since the rationality of a belief can neither be read off it straight away nor be assessed by comparing the belief with the evidence, we must conclude that epistemology needs history" surely states the basic premiss for any collection which brings together the work of philosophers and social scientists.

J. D. Y. Peel

J. D. Y. Peel is Charles Booth Professor of Sociology at the University of Liverpool.

BOOKS

London particulars

The Government of Victorian London 1855–1889: the Metropolitan Board of Works, the vestries and the City Corporation
by David Owen
Harvard University Press, £12.50
ISBN 0 674 35885 6
Metropolitan London: politics and urban change 1837–1981
by Ken Young and Patricia Garside
Edward Arnold, £25.00
ISBN 0 7131 631 3

Many urban historians have been content to quietly ignore London as something *sui generis*. Their decision derives partly from the methodological difficulties in handling so vast and untypical a conglomeration, and partly from a lack of good secondary sources to guide the unfamiliar scholar. The appearance of these two books removes the latter excuse: we now have stimulating introductions to the complexities of London government in the nineteenth and twentieth centuries.

The Government of Victorian London is a tribute to the esteem in which its nominal author, David Owen, was held. Owen, Gurney Professor of History at Harvard, died in 1968 with a partly completed manuscript extant. Roy Macleod agreed to edit and revise the text, Francis Sheppard has written several chapters and completed others, David Reeder has supplied a conclusion and a bibliography, Donald Olsen has contributed an introduction and John Clive a foreword. While the editor is to be congratulated on persevering with the project in line with Owen's plans, the book inevitably takes on a patchwork appearance.

What Owen wished to do was to remedy a glaring deficiency in metropolitan history by rendering a fair account of London government in the generation before the creation of the London County Council. This is more or less an uncharted field and one dominated by the conventional late-Victorian critique of the shortcomings of both the myriad of parish vestries and the ill-fated Metropolitan Board of Works (MBW) created in 1855. Owen's story reveals a masterly control of the material, for he had submerged himself in the detailed administrative and political history of the MBW. His analysis challenges previous condemnation of the MBW as a corrupt and inefficient anachronism, pointing particularly to the major achievements of sewerage and main drainage and the building of the Thames embankment. While conceding that some peculation existed, Owen denied that the "odour of corruption" condemned the MBW, whose constitutional deficiencies prevented the emergence of genuine municipal government.

Once the book enters the realm of the vestries the impact is less happy and it was here that the original manuscript most needed supplementation. As case studies, Owen wished to examine the City Corporation and a random selection of parish vestries whose choice, it appears, depended on the availability of newspaper sources. It was, of course, entirely necessary to deal with the vestries which were in London powerful political and administrative agencies. When in 1855 their constitution was regularized and the benefits of Hobhouse's 1831 Act were extended more widely, one suburban journal rejoiced, "Lambeth is to have a House of Commons of its own . . . every parish is to have its little Senate and its great debates." Nor was this unreasonable. St Marylebone, perhaps the best-run parish, had a population of some 160,000 in 1861, twice that of Brighton, Bolton and Leicester and even somewhat larger than Bristol. Little wonder that a place of its size and importance, albeit surrounded on all sides by "London", would wish to preserve its autonomy and challenge any central agency. A seat on its vestry was a position of some importance: in Disraeli's novel *Sybil* a displaced MP expressed no desire to re-enter the Commons but admitted, "If I had a taste for business I might be a member of the Marylebone Vestry". Yet though the local-central contest inextricably weaves itself in and out of Owen's narrative, the structural separation in the book between part one on the MBW and part two on vestries prevents a full exposition of this crucial problem, which might have been further elucidated by some extended discussion of the Metropolitan Asylums Board.

While this book will become standard reading for anyone interested in nineteenth-century London, it has to be said that it has a rather old-fashioned air. It is urbane and witty but it lacks systematic social and occupational analysis and any clear identification of the nature and role of organized politics in London government. It is fascinating to learn that in Marylebone one of the clique divisions was between the quaintly named "Orientals" and "Alligators", but the book does not provide the context for identifying the chronology and significance of political organization.

That is something which *Metropolitan London* provides in abundance, for its main focus is on the politics of London government, not really, as the sub-title suggests, from 1837 but in fact from the formation of the LCC in 1889. It is indeed end-on with Owen and it too has its quirks of authorship. The nominal joint author Patricia Garside in fact is the author of only three chapters and the tone and objectives of her material on housing are different from the rest of Ken Young's analysis. The book's main strength lies in its discussions of the twentieth century and in the analysis of the continuing debate about London.

What is truly significant in reading these two books together is that the issues do not change. Is London one place or many? What is the relationship between the centre and the periphery? Is greater good achieved by an elitist, central agency or by diffused local democracy? How is the "dunism" of a capital city to be resolved? Young and Garside develop one really important argument, which may perhaps derive from their approach. It is that for all the physical and demographic expansion of London, the exigencies of the debate about its government had little to do with regional economic and social structure and everything to do with party organization and attitudes. Activists have always "played politics" with London government and there has been no government structure which has emerged "naturally" from the pluralistic economic and social reality that makes up London.

Metropolitan history as well as wider political and administrative studies have been considerably advanced by these two studies. London might still be *sui generis* but there is no excuse now to leave it out of account.

Derek Fraser

Derek Fraser is professor of modern history at the University of Bradford.

The Fabian's dilemma

Fabianism and Culture: a study in British socialism and the arts 1884–1918
by Ian Britain
Cambridge University Press, £19.50
ISBN 0 521 24071 9

There are some stereotypes which we relinquish only with great reluctance. One such image is that of the early Fabians, and more particularly the Webbs, as desiccated administrative reformers, worthy work addicts, secular puritans for whom art and frivolity were unthinkable. The double portrait of Sidney and Beatrice in their old age which hangs in the Shaw Library at the London School of Economics sums it up. He is round and pompous, she spare and starved, stretching out a thin hand to the moderate blaze in the hearth as if nothing could thaw that chilled marrow. The painting used to preside incongruously over the Christmas party for the children of the academic staff, with Santa played by an eminent professor of one of the dismal sciences; the Webbs hung, alien against the annual riot of unseemly celebration, waiting, it seemed, for the think tank which they helped to found to resume its proper, serious business. But now Ian Britain comes along to tell us that such a picture is unfair and untrue: we must find some other vehicle for our stereotypes of killjoy utilitarianism; the Webbs and their Fabian brethren are exonerated on all counts.

Ian Britain examines the charges against them under three heads and his verdict is that the movement in general and the Webbs in particular were never "philistine", only moderately "ascetic" and not even consistently "elitist". The aim of his book is "to point up the vitality of Fabian ideas in precisely the area where they are considered most impoverished – the sphere of culture, in the sense of the arts and their relationship with work and leisure, morality and religion, politics and social class". He performs his task of rehabilitation on behalf of the early Fabians with thoroughness. The pity is he does it in a style uncomfortably close to the dry "Blue Book" prose which one associates, however unfairly, with the early Fabians themselves. Chapter eight, for instance, involves a not very revealing statistical analysis of arts-related lectures given at the main branch of the Fabian Society and at Fabian summer schools, and is a classic case of redundant quantification. Too many chapters rest on résumés of lectures or pamphlets so that the reader risks the mental indigestion which might be provoked by an over-consumption of Minute books.

All this is regrettable because Dr Britain's research is thorough, his footnotes and bibliography are impressively complete and his material does genuinely correct the historical record on an important subject. Perhaps the book has simply stayed too close to its original format as a postgraduate thesis. Its professional status as *historical* scholarship may also explain my other disappointment. Dr Britain largely confines himself to what might be construed as Fabian policy towards the arts and the reader waits in vain for any serious engagement with art produced by Fabians. After all, Shaw was a considerable dramatist and an outstandingly vital music critic, Wells was the first significant practitioner of science fiction as well as a more conventional novelist, and E. Nesbit's books are classics of children's literature. Yet, apart from a brief reference to an early novel by Shaw, their art is left untapped, presumably because it resides in a specialist compartment labelled "literature". *Pygmalion* – a key text on "elitism" if ever there was one – does not even rate an appearance in the index.

Carping aside, however, one does learn a good deal from this book. Thomas Davidson, secular mystic and champion of classicism against romanticism, takes on his proper role as nub of the coterie out of which the Fabian Society originally sprang. The early part of the book is a fascinating documentation of the tension between classic and romantic principles as *central* to the moral, political and spiritual values of the first Fabians. The pull of romanticism was by no means confined to the influence of Ruskin, Morris and the pre-Raphaelites; the Fabians, and not least Sidney Webb, also wrestled mightily with Goethe. Underlying their concern with the classic/romantic debate was a recognition of the need to decipher and if necessary re-shape the moral and aesthetic tendencies of industrialism and of the machine age: to their credit they found neither easy answers nor dogmatic certainties. Dr Britain is good at searching out the passionate seriousness of individual Fabians, whether it is couched in Annie Besant's flamboyant oratory (an art form in its own right) or in Sidney Webb's diffidence about his own artistic competence. My favourite image from this part of the book, and one which perhaps sums up its basic thrust, is of Shaw in the British Museum reading *Capital* side by side with the score of *Tristan und Isolde*.

Ian Britain argues that what has often been taken for asceticism was really a selective self-denial through which the Fabians expiated guilt about the privileges of their class. This class guilt may even help to explain their ambivalence towards romanticism with its connotation of luxuriance. He documents various kinds of fun in salon and summer school, not all of it decorous.

This part of the discussion is more convincing than Dr Britain's handling of the case for and against Fabian "elitism". Here the problem is not the quality of the evidence but the author's uncritical deference towards the contemporary thesis of the "dominant ideology" – of which the Fabians were mercifully innocent. The evidence documents the Fabians' honest uncertainties. Many of them respected, even envied, the vigour and spirit of much working-class entertainment such as the music-hall, and others cherished visions of a transfigured artisan culture which would lift the quality of daily life. But they seldom sentimentalized working-class culture and were never mealy-mouthed about moral and aesthetic degradation. In short, they did not dodge the issue of quality. No one who has read Shaw's music criticism could accuse the Fabians of an uncritical acceptance of "high culture" *tout court*, but they did assume that qualitative standards (which embraced moral and spiritual as well as aesthetic dimensions) were an issue in their own right and not to be confused with the class provenance of a particular cultural form.

On this, alas, their naivety was often wiser than much contemporary sophistication.

Bernice Martin

Bernice Martin is lecturer in sociology at Bedford College, London.

Catholic strategies

Resistance and Compromise: the political thought of the Elizabethan Catholics
by Peter Holmes
Cambridge University Press, £22.50
ISBN 0 521 24343 2

Twenty years ago Professor John Bossy wrote a brilliant and influential essay called "The Character of Elizabethan Catholicism". By a schematic mode of analysis more characteristic of French than of English historiography he depicted post-Reformation Catholicism in a variety of types or forms: clerical and lay (in which he was always the crucial dichotomy in the history of Catholicism); dynamic and passive. Out of these antitheses was born a somewhat dispiriting synthesis. "The history of Elizabethan Catholicism is a progress from inertia to inertia in three generations."

For "inertia" read "non-resistance" and Dr Holmes's study of Elizabethan Catholic political thought traverses the same ground, but adding some relatively unfamiliar evidence, and comes to not dissimilar conclusions. But where Bossy saw a clash of consistent principles materially rooted in dissimilarities of environment (the English country house, the seminary, the itineraries of international commerce and intrigue) Holmes finds expediency, flexibility, even inconsistency within a more homogeneous religious community. Elizabethan Catholic history becomes less a dialectic of fixed positions than a sequence or "chronological rhythm" consisting of successive episodes of resistant and non-resistant, even non-political strategy. Robert Persons himself, the arch-activist, was subject to and part of these phases.

Because Dr Holmes's thesis necessarily emphasizes the pragmatism and opportunism of Elizabethan Catholicism and draws on the recorded evidence of casuistry, it carries the implication that in its truest colours that politics was far from conventionally loyalist and quiescent, Burghley and Walsingham, reading this book, would have their deepest suspicions confirmed. Yet the effect of prevailing ideological orthodoxies and of circumstances, including international circumstances, was to make the occasions when the politics of resistance openly showed its hand relatively transient.

One such episode occurred in the early 1570s, as a reverberation from the papal bull of excommunication and deposition. Another, in the 1580s, reflected the climate of a decade which contained the assassination of William of Orange, the rise in France of the catholic *Ligue* and the build-up to the Spanish Armada. "Conversely, as the Spanish inability to take England became clear in the mid-1590s, resistance theory disappeared from the books of the Elizabethan Catholics." This retreat embraced the entire English Catholic movement, Persons included. But it is equally Dr Holmes's contention that in the preceding period there had been little overt opposition to the ideology of resistance, slight evidence of a split between lay and clerical opinion.

Religious resistance was a partly distinct issue. One of the virtues of Dr Holmes's study is to remind us, here complementing rather than opposing the Bossy of *The English Catholic Community 1570–1850*, of the multiplicity and fineness of the religious choices confronting the conscientious Catholic who was constrained by law (after 1581 to the tune of £20 a month) to attend heretical church services. Was it a sin for Lord Montague to attend the queen to the Chapel Royal? Naaman had bowed himself in the house of Rimmon. Given the fact that Catholics had Protestant kinsmen and neighbours, should they uncover their heads when grace was said by a Protestant chaplain? Should they expect their non-Catholic guests to participate in Catholic fasts? Should they serve as godparents to Protestant children? Christian baptism, after all, was Christian baptism. On all these questions Dr Holmes's use of casuistical manuals further illustrates Professor Bossy's suggestion that Elizabethan Catholics pragmatically sought the "optimum line", providing "the maximum of self-determining capacity and the minimum of destructive isolation".

If Dr Holmes has written a stimulating rather than wholly convincing book it is because, either in response to commercial constraints or because of a natural economy of exposition, he has written too sparingly on many issues to carry total conviction. For example, it is an important part of Holmes's thesis to argue that Robert Persons wrote the libel commonly known as *Leicester's Commonwealth*, which he believes ushered in an epoch of relatively aggressive propaganda. But for the argument of authorship the reader is referred to Dr Holmes's unpublished doctoral thesis and (although no reference is given here) to a recent article in the *Journal of Ecclesiastical History*, where, in my opinion, the matter is not quite clinched.

Dr Holmes is often felicitous. I particularly appreciated the description of Bishop White of Winchester, the preacher of Mary Tudor's funeral sermon, as "the bad fairy at a christening"; and the comment on the Catholic writer who believed that the marriage of the Anglican clergy would produce, by 1982, a population of more than 603 million that he was "always attracted by bad statistics". But the rather startling statement "when the Catholic restoration finally came in 1685" suggests that the author has been reading Kingsley Amis's *The Alteration*.

Patrick Collinson

Patrick Collinson is professor of history at the University of Kent.

The sixth volume of the *Regesta Regum Scottorum* has just been published by Edinburgh University Press at £25.00. Edited by Bruce Webster, this volume's subject is "The Acts of David II 1329–1371", and it contains the full texts of nearly 500 Acts as well as an introduction outlining Scottish royal government in the fourteenth century. Appendices list officers, texts attributable to distinct scribes, and also petitions brought to the papacy on behalf of David II.

BOOKS

Fascination with numbers

Elementary Introduction to Modern Number Theory
by J. H. Loxton
Cambridge University Press, £18.00
ISBN 0 521 24118 9 and 28534 8

Number theory holds a special place in mathematics – the "Queen of Mathematics" according to Gauss. Even if it is studied for the pleasure and excitement it generates with its theories about applicability or its practical constraints; although, of course, many of its results have been found incidentally in other fields, for example, in solving programming problems in computer science.

It follows that a work of number theory must communicate this sense of excitement and fascination and must be judged in this light. Although these books all begin with divisibility, they virtually their only common ground.

The most advanced, the graduate text by Ireland and Rosen, is an important and most useful addition to the literature. Although the title does seem to contradict itself by "modern" is usually considered to be the antithesis of "classical" – they have taken the modern approach (using ring theory) to classical results, that is, results discussed or proved at least a century ago. A great effort has been made to put the theorems into their historical context, and the work of Gauss and others is freely used. The choice of topics discussed is not entirely usual one, and reciprocity is a central theme. The book steers a successful course between elementary well trodden topics and advanced results in their full generality.

The book is divided into four sections. Section one (six chapters) introduces the basic ideas including congruences, roots, quadratic reciprocity (a number of proofs are given) and the distribution of quadratic Gauss and Jacobi sums. The second section (three chapters) is concerned with finite fields and the solution of equations over them. General Gauss and Jacobi sums are treated and applied to cubic and biquadratic reciprocity. Finally, zeta functions are introduced and the Hasse-Davenport relation proved.

The third section (chapters 12 to 14) deals loosely with algebraic number theory, the basic definitions of norm and ramification, and so on. Then, given and quadratic and cyclotomic fields discussed. The hardest chapter (14) considers the Eisenstein reciprocity law, using the work of Eisenhart. Bernoulli numbers and Dirichlet's L-functions complete this section of the book.

The final section (two chapters) deals with Diophantine equations. Some elementary results are considered with applications of the previous work and the book ends with a well written introduction to elliptic curves and Hecke's L-functions. Although this last section is a little rough, the general standard of the book is very high. It is an exciting and useful work.

L. K. Hua is a highly respected Chinese mathematician with many important results to his name. He has written his book, in Chinese, in 1940 and the present volume is an updated English translation, a beautifully written text in the traditional style. And although I got the feeling that I had seen it all before (the book is written in the style of Landau and Hardy and Wright), it is very convenient that so much material has been collected together in one place.

Chapters one to six introduce the usual undergraduate topics including quadratic reciprocity, the primes and the arithmetic functions. Each of the remaining 14 chapters deals with a single topic, none of which goes beyond the difficulty of a first-year graduate course. The first two chapters introduce characters, partitions and sums of squares and in chapter nine both the elementary and analytic proofs of the prime number theorem are given. Diophantine equations are treated in the next six chapters with the main emphasis on quadratic cases; there is also some discussion of the p-adic numbers. Algebraic number theory is dealt with in chapter 16; again the quadratic case is emphasized. The final chapters are concerned with Waring's problem, density and the geometry of numbers. Although this well written, if rather long, book will not add much to a well stocked number theory library, in a quiet way the author's fascination with the subject shines through.

R. P. Burn's book is a very different matter. Burn has forsaken the usual approach – that is, an introduction followed by a sequence of theorems with proofs and exercises – in an attempt to get back to the original mathematical discoveries. The text consists of a long sequence of questions with the intention of leading the student (a competent first-year undergraduate) to discover the basic results of number theory for himself (or herself). In a separate section at the end of each chapter a list of answers is given some of which are quite brief. Although a list of definitions and theorems is given in an appendix, the book is no use for reference nor is it intended to be. The subject matter is typical for an elementary number theory text; no topic is dealt with in depth and there are some brief historical notes.

The author states that his book is intended for a reading course with no lectures. Although some may be prepared to work hard and learn a great deal from the book, many students will have considerable difficulties with it unless it is used in conjunction with other texts. The author suggests this but, in my experience, students beginning a new subject find it difficult to study two books, with different notations and emphases, at the same time. I am sure that the principle behind this book is a good one taken too far.

It is surely a good idea to begin a chapter with a list of questions to encourage the student to think about the problems under consideration but once the "meat" of a chapter is reached, usually the proofs of the main results, the traditional approach should be reverted to. For example, it seems ridiculous to use this question and answer method on a tricky proof like that of the law of quadratic reciprocity. I am convinced that a student's first aquaintance with a proof of this law should be with a clearly expounded proof. The student will ask his or her own questions about each step of the proof as it proceeds.

Although Burn's book is an interesting experiment which might help some students if used in close conjunction with some other texts, the technique might be applied more advantageously to a text on calculus or analysis.

H. E. Rose

H. E. Rose is lecturer in mathematics at the University of Bristol.

A matter of survival

Ecology of Desert Organisms
by G. N. Louw and M. K. Seely
Longman, £8.50
ISBN 0 582 44393 8

Gideon Louw and Mary Seeley's thought-provoking book is packed with exciting ideas, some old, some new, and some unproven; mostly correct but a few with which I, for one, would not entirely agree. It is not directed at the specialist in desert biology, but is aimed at various levels, particularly at "the undergraduate who wishes to broaden his ecological knowledge and at the same time absorb some important principles in ecology and ecophysiology".

The Sahelian drought of a decade ago, and the recent spate of superb television productions on the subject of life in desolate places, have aroused widespread interest in the deserts of the world and in the plants and animals which manage to inhabit them despite their harsh and inhospitable environments. The main question to which the book under review is directed is just this. How do these extraordinary plants and animals exist under a combination of excessive heat and drought so severe that only the larger mammals, with a correspondingly small surface to volume ratio, can ever afford to expend moisture on evaporative cooling? Most desert plants and animals survive because they are small enough, by exploiting favourable microclimates, to escape from the full rigours of the desert. In addition, and these are elucidated with commendable clarity in a chapter on the desert environment and principles of adaptation.

The relationship between body weight (gm) and surface area (cm^2) in vertebrates approximates to that of a stretched cylinder (slope = 0.66) regardless of the size of the animal. This is illustrated by a graph which includes data from beech trees, showing just how basic to all living organisms is this well-known allometric association. Another graph emphasizes the similarity of the relationship between metabolic rate and body mass in organisms as dissimilar as potozoans, poikilotherms and homeotherms. This relationship has long been a subject of speculation, but as yet no really satisfactory explanation of the phenomenon has been provided. Body size not only affects heat transfer, but also influences thermal inertia directly, since large organisms gain heat more slowly than smaller ones, while the metabolic rate of larger animals is relatively much lower. One of the reasons why ideas such as these, exciting enough in themselves, are particularly striking in the context of desert ecology, is their special relevance to survival in arid regions. Furthermore, attention is drawn throughout the book to similarities between both plants and animals in their adaptive responses to the hostile environment of the desert. These adaptations are examined mainly by reference to the flora and fauna of the Namib and Great American Deserts. Later chapters of the book are concerned with reproduction in the desert environment and with the structure and inter-relationships of desert communities; and the book concludes with a consideration of man and the desert.

According to the modern conception of *r*-selected and *K*-selected species, the former are typically associated with unstable environments, unpredictable resources, catastrophic mortality, variable population sizes, rapid development, short life span, small body size, and high productivity; the latter with the opposite conditions and characteristics. Within the interactions of an $r - K$ continuum, it seems preferable that, as a generalization, the desert environment favours *r*-selection. There are, however, some surprisingly long-lived exceptions, including tenebrionid beetles and certain reptile species. This is one of many interesting aspects of desert ecology which have yet to be explored, but to which attention is here drawn.

The book is illustrated with some delightful photographs, including eight in colour, and clear line drawings. It can almost be guaranteed to broaden the knowledge and extend the interest of the reader.

J. L. Cloudsley-Thompson

J. L. Cloudsley-Thompson is professor of zoology at Birkbeck College, University of London.

An engraving of Trophonius, a mythical figure whose oracle at Lebadeia was said to be second only to the Delphic oracle in accuracy. Trophonius is shown holding a hive because his first applicants were led to him by a swarm of bees. The illustration is taken from John B. Free's *Bees and Mankind* (Allen & Unwin, £9.50).

A touch of blight

Principles of Plant Pathology
by J. G. Manners
Cambridge University Press, £22.50 and £8.95
ISBN 0 521 24301 7 and 28592 5

Courses in plant pathology are a traditional feature of undergraduate degrees in agricultural science but are increasingly important in the pure sciences, as the subject has changed from being primarily concerned with descriptive pathology and disease control, to one in which the advances in plant physiology, biochemistry and genetics are being increasingly brought to bear to improve our understanding of fundamental pathological phenomena and to determine future strategies of disease control.

In the past few years there have been a number of general texts covering broad aspects of plant pathology and this latest offering aims to provide a critical and up-to-date account of the principles underlying the study of plant diseases. The book is claimed to be suitable for students of elementary courses, but is also intended for advanced students as a basis from which to explore the literature. Inevitably, this seems to have produced a compromise: certainly, accounts of some complex issues, especially in physiological plant pathology, are neither up-to-date, nor critical, and I think the advanced student will be disappointed.

The book is divided into five sections. Part one deals with the various biotic and abiotic sources of disease, and is primarily a straight review of the major groups of fungi, bacteria, viruses and mycoplasmas. The introduction to this section includes a number of definitions but I found some difficulty with the author's views on virulence ("If a physiologic race contains a large number of genes for virulence it is said to be highly virulent"). This section also contains an unfortunate error, chlorine being referred to as an activator of photosynthetic carbon dioxide evolution.

Part two, the largest section, deals with the physiology of host-parasite relationships, including sympton development, penetration, cell wall-degrading enzymes, toxins, resistance mechanisms and effects on host physiology. It was here that I found the book most disappointing. The approach adopted is highly traditional, containing little of the modern, exciting molecular approaches that are now being applied in this rapidly moving field. Overall, the section lacks impact and much of the material used is rather dated or has been superseded (for example, sections on recognition and phytoalexin elicitors, bacterial toxins, role of RNAs in triggering specific resistance). The minimum effective concentration of the toxin victorin is given erroneously as 0.0002 g/ml rather than the correct value (Wheeler, 1975) of 0.0002 μg/ml.

Part three deals with the genetics of plant disease, and although it contains clear descriptions of the different genetic bases of resistance and the confusing terms often used to describe them, advanced students may be dissatisfied with the absence of any reference to the approaches of modern molecular genetics, which promise to revolutionize our study of the precise nature of genes for resistance and virulence.

Part four, on epidemiology, is perhaps the best in the book, and covers standard themes such as the effect of environment as well as more recent developments in modelling and forecasting. Part five, on plant disease control, presents useful discussions of theoretical and practical aspects of chemical, cultural and biological controls.

The book concludes with a useful list of definitions (some of them quite basic), a bibliography and index. Considering that one of the aims of the book is to provide an introduction to the literature for advanced students, the bibliography is rather dated, as out of about 600 references only a handful are post-1978. It is, in fact, difficult to avoid the impression that the book has been in the course of preparation for rather a long time. The book contains 36 figures and photographs, not all of the latter being particularly valuable and the quality of some being rather poor.

As an elementary text, the book is in general adequate, but students may find its style, presentation and interest level rather less appealing than some competitor volumes. The more advanced reader will be dissatisfied with the rather dated material and will probably prefer more specialist monographs, symposia volumes, reviews and so on, of which there is no shortage.

J. A. Callow

Dr Callow is lecturer in plant sciences at the University of Leeds.

BOOKS

And all things nice

Children's Sexual Thinking
by Ronald Goldman and Juliette Goldman
Routledge & Kegan Paul, £11.95
ISBN 0 7100 0883 X
Sex and Gender
by John Archer and Barbara Lloyd
Penguin, £2.95
ISBN 0 1402 2194 8

Psychological research has gone through a long latency period so far as the understanding of children's thinking about sex and gender is concerned. What do children think about the origin of babies, the length of gestation, the differences between young boys and girls, the reasons for marriage, the meaning of words such as "puberty" and "abortion"?

There has been very little research in such areas, no doubt due to the inhibitions and taboos on open discussion of sexual matters which until recently characterized western society and which is still obvious in our embarrassed and stilted use of proper sexual terms and our inadequate approach to the sexual education of children. These have affected both the willingness of researchers to investigate the topic, and the willingness of, for example, school authorities to cooperate with them.

In their book *Children's Sexual Thinking*, Ronald and Juliette Goldman have produced a major work which will go a considerable way in helping us understand questions such as those above. They interpret sexual thinking widely, to include for example perceived roles of mother and father, and sex preferences in friendships. *Children's Gender Thinking* would be a more accurate title, if apparently less appealing from the publisher's point of view. In addition, some information on children's thinking on that other "taboo" topic, old age, is included (these being "warm-up" items in the interviews). Altogether, the findings should provide ample food for thought and discussion by teachers and parents.

The work is within a definitely psychological framework and its authors are interested in the development of children's gender thinking from a cognitive perspective, pointing out how Piagetian research has concentrated on the child's understanding of the physical world and almost neglected the biological. They are also interested in testing Freudian ideas, such as the latency period, and the classic theory of birth (that the baby is made from food and comes out through the anus). They do, however, set the sociological scene for their findings in a well-balanced, early chapter that reviews trends in areas such as early maturity, premarital sex, and occurrence of venereal diseases, where the need for sex education is most obvious.

The findings of the book are based on interviews with a total of 838 children, between the ages of five and fifteen, in England, Australia, North America and Sweden. The methodology is well described and generally meticulous, though at times the classifying of responses into Piagetian or Kohlbergian frameworks will seem a bit arbitrary to those well-versed in these traditions.

The main body of the book is unfortunately somewhat indigestible for someone reading straight through it. There are very many detailed findings and tables (and rather fewer of the very helpful graphs). The forcing of most responses into cognitive-developmental scales leads to predictable improvements with age, but more might have been made of the actual content of the responses, for example with items such as the origin of babies, of how having babies can be prevented. Also, detailed comparisons of age/sex differences between countries, such as "there is a perceptible increase at 15 years in choice of father as favourite parent by the Australian boys, but not for the North American", which litter the text, are probably unreliable being based on a maximum of 20 children per subset.

Nevertheless, the main trends come through forcefully enough, with useful summaries at the end of each chapter. Perhaps the most important are the considerable ignorance children have in certain matters, the myth of the latency period, and the difference between Swedish children and those of the English-speaking countries.

First, ignorance. On the quasi-Piagetian scales the authors have constructed (for reasoning about why people marry, reasons for wearing clothes, and so on) concrete operational thinking is only reached by about 11 years of age (compared to nine years for reasoning about "the best time to be alive", and seven to eight years on conventional Piagetian tasks). Specific knowledge is surprisingly poor on some items; for example, in England 43 per cent of 11-year-olds could still not properly say how newborn boys and girls were different. Only 10 per cent of 15-year-olds could properly explain what was meant by "venereal diseases", and only 3 per cent what was meant by "puberty" (compared to 43 per cent of Swedish 15-year-olds on this latter item).

Second, the so-called latency period. The Goldmans' interpretation of this aspect of Freudian theory is that sexual awareness would be reasonable at five years, but with little evidence of increased knowledge or interest from then until puberty. In fact they found seven and nine-year-olds to be no more inhibited than five-year-olds but showing a steady increase in knowledge. Freudians might well argue that the latency period refers to the affective expression of sexuality, and not to cognitive processes; but either way, arguments about a latency period should not be used against the possibility of sexual education during this period.

This last point is reinforced by the difference between the Swedish and the English-speaking children. In Sweden, compulsory sex education begins at eight years; and attitudes to sexual matters are generally more relaxed. The Goldmans found that Swedish children are ahead on many knowledge items (such as where babies come from, contraceptive devices, meaning of sexual terms) and more relaxed on attitudinal items (such as reasons for marriage, or wearing clothes). As an example, nearly 50 per cent of English boys expressed aversion to girls at all ages, but only some 10 per cent of Swedish boys did the same. Their views of sex roles were less stereotyped than those of English-speaking children, although stereotyped views of parental roles were still in evidence.

In general the Goldmans argue that better and earlier sex education is not only desirable (and, as they found, wanted by most children) but quite successful, as the Swedish findings suggest. Their arguments deserve very serious consideration.

Education about sexual matters at some stage is uncontentious (though not the age at which it should occur); but attitudes and stereotypes will always be a matter of debate. John Archer and Barbara Lloyd discuss the wider issues of sex and gender in their book, attempting to separate commonsense views and the findings of social scientists on matters such as physical and psychological differences between men and women, and the relative role of biological and social processes.

The book is pitched at a moderately academic market, being based strongly on recent empirical and theoretical work in the social sciences. It is up to date, and covers sociological and anthropological as well as psychological views of the topics covered. In general it will be a useful textbook for student courses.

As well as contrasting biological and environmental explanations, the authors, in their penultimate chapter, support an "interactionist" approach based on cognitive developmental theory. They tie this to a type of developmental model described by ethologist Patrick Bateson. They suggest that the biologically channelled aspect of gender development is simply that gender classification will occur, with the *content* of gender classification depending on cultural influences. This is an interesting approach, and one which might have been introduced earlier in the text and considered in relation to particular examples.

This model is still a primarily cultural one, as it is suggested that any gender roles could be equally easily learnt. Although the authors purport to eschew any simple "main effects" model, either biological or cultural, and although they describe some biological theories, it is clear that the majority of the discussion is weighted against them. In their own words, they largely disregard biological explanations of gender differences.

This area is sufficiently contentious that no book will satisfy everyone, and overall the authors' review is a scholarly one. But some bias against giving due weight to biological factors may be detected. For example, in chapter one Mead's early work on sex roles is cited, without the later criticisms (men do the hunting and fighting, even among the Tchambuli). In choice of words too, there is reference to biological reductionism, but not to cultural reductionism. The sociobiological explanation of sex differences is not given much hearing; no mention of E. O. Wilson, or Donald Symons's book on the evolution of human sexuality. Nor, surprisingly, is there any mention of Marvin Harris's cultural-historical explanation of the male supremacist complex.

It is easy enough and largely reasonable enough to reject simple biological "main effects", but biological factors only get a fair hearing if an interactionist position is considered in relation to the ease of learning or retention of certain cultural practices or beliefs. This view is not fully discussed – for example, the Tiger and Shepher study of changes in sex roles in the kibbutzim, which would have provided an ideal vehicle for sustained, detailed and critical analysis, gets only two of the very briefest mentions.

It is clear that some gender beliefs and practices can be readily altered, as shown by the Swedish children in the Goldmans' work: others may be more resistant to change. It does not serve the cause of social change and true human liberation to play down possible biologically-based influences which may make such changes less easy (though no less desirable in terms of our higher values) than social learning theorists would imagine.

Peter Smith

Peter Smith is lecturer in psychology at the University of Sheffield.

A talent to observe

Theory and Practice of Observing Behaviour
by Gerhard Fassnacht
Academic Press, £15.00
ISBN 0 12 249780 5

The choice of a method with which to study the behaviour of animals or people depends upon a number of things; the particular questions to be investigated, the nature of the behaviour itself, the setting in which it occurs, and so forth. Observational methods are not new to the study of behaviour (for example, it was from direct observation that Darwin constructed his. *Biographical Sketch of an Infant*, published in 1877) but they have attracted a great deal of interest and attention during the past two decades. The revival which observational methods are enjoying reflects theoretical and technical developments and some shifts of interest, particularly in social and developmental psychology.

The laboratory is a wholly inappropriate location in which to investigate sensitive kinds of behaviour. Some behaviour simply will not occur in such a context and in other cases the laboratory will impose such constraints as to grossly distort the behaviour. Investigations therefore must often be carried out in a naturalistic field setting. Many behaviours, quite apart from the context in which they occur, cannot easily be witnessed other than by a human individual observing them. Thus the need to work in field settings to minimize interference and distortion, and to identify and record behaviours for which no automatic means has been devised (such as a smile) provide principal reasons for the use of direct systematic observation.

The direct observation of behaviour may sound really quite a simple and straightforward matter but frequently it is not. Some of the difficulties can be readily demonstrated by asking a person to observe and record the behaviour of a child in a nursery or a fish in an aquarium. Four major issues have to be considered: what will be observed, when will the observations be made, what observational methods will be used and how will the accuracy and validity of the observational be verified.

This book begins with a discussion of the process of representing reality and a formal consideration of representational mechanisms. This is followed by a discussion of the nature of error and different classes of error are examined. The first chapter, though a little abstract and dry, deals with important issues which are often taken for granted. Chapter two gives a formal representation of the process of observation, considers the nature of observation and experiment and goes on to a fuller examination of errors. Chapters three, four and five deal with more immediate practical matters such as units of behaviour, types of observational systems, and ways of quantifying observations.

Chapter six, the longest in the book, compares and contrasts observation from the ethological and ecological standpoints. The ethological approach originated with animal work and has now gained wide acceptance and use in work with children. The ecological approach refers to the work of Barker and Wright in the 1940s and 1950s and entails a description and classification of the "stream of behaviour". The units used here are quite different and entail the analysis of behaviour episodes and settings. Much recent work on language development has followed a route of this kind.

Chapter seven is a brief and ill-formed set of concluding remarks. Beyond saying that systematic observation is a method of data collection used in several disciplines, the chapter contains little beyond anuncritical list of advantages and disadvantages, the significance of which varies wildly.

The book is based on a course which the author has taught at the University of Bern for some years. Some fundamental issues are painstakingly explored, clearly expressed and dealt with quite expeditiously. But the balance of the book is unsure, and in places it is pedantic and sometimes obscure. It lacks any consideration of the methods of data analysis which have been developed in conjunction with observational work and simple and straightforward matter but frequently it is not. Some of the difficulties can be readily demonstrated by asking a person to observe and record the behaviour of a child in a nursery or a fish in an aquarium. Four major issues have to be considered: what will be observed, when will the observations be made, what observational methods will be used and how will the accuracy and validity of the observational be verified.

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K. J. Connolly

K. J. Connolly is professor of psychology at the University of Sheffield.

Parental images

Mothers and Fathers: a study of the development and negotiation of parental behaviour
by Kathryn C. Backett
Macmillan, £20.00
ISBN 0 333 28112 8

Mothers and Fathers is a significant contribution to the exploration of an aspect of family life which has been relatively little researched at least by sociologists. The substance of the book is a piece of empirical research based on a series of interviews with middle-class couples with two children one of whom was under school age. It presents accounts of parenthood from two main stances.

First, Backett suggests that parental behaviour is the outcome of interaction between parents and children. Second, she shows how parenting is negotiated between the two very different gender positions: mothers and fathers. She argues that people largely learn how to be parents in the course of rearing children by constructing images of them and attributing meanings to their behaviour.

A strength of Backett's analysis lies in its subtlety and much of its fascination in the ways in which she unravels the web of interpretations which people weave in order to make reality more acceptable to themselves. For example, she exposes one of the key myths to which parents subscribe: that, in spite of the fact that mothers continue to be in the front line of child rearing, both parents set great store by the belief that parenting is a joint and shared enterprise.

However, although much of the substance and strength of the analysis lies in demonstrating how a set of meanings are sustained in the face of contradictory reality it is also, in my view, its main weakness. There is little evidence of the impact of changes external to family life which can challenge and change parents' beliefs and practices. Although this may be a consequence of the sample – middle-class couples living in Edinburgh in the early 1970s who appear to have had relatively uneventful and concordant marriages – it is probable that the cause goes deeper and rests on an exclusive reliance on a phenomenological perspective.

Backett claims that the explanation for the continuing overall care and responsibility of mothers for children lies in "the taken for granted views" that mothers are the best and most appropriate persons to carry this out. Such an explanation takes no account of the structural origins of gender divisions, both within the family and in the wider society. Moreover, Backett is not concerned with giving a precise quantitative description of the actual division of labour and responsibility for childcare among her couples, although much of her argument rests on an assessment of it.

There is much to commend in the methodology of the research. In the presentation and analysis of the couples' accounts of parenthood Backett allows them considerable latitude in speaking for themselves. Moreover, it is clear that these accounts were produced in the course of a series of in-depth interviews with each couple which took a variety of forms. Some interviews were conducted individually with each of the spouses, whereas others took place with both spouses present. A third technique was to provide the couples with tape recorders on which they recorded discussions of topics set by the researcher but in her absence. An interactive approach to the collection of data clearly proved fruitful in investigating the interactive nature of accounts and interpretations.

It is perhaps not surprising that Backett is pessimistic in her speculations about the future extent of real change in child rearing practice and responsibility. Although such a conclusion is undoubtedly well founded, the situation is unlikely to alter so long as change is sought solely within the nuclear family and so long as the care of children other than by parents is seen as an alternative or substitute for parenting. Greater involvement on the part of fathers is desirable but not sufficient. The accomodation of childcare arrangements in the family to the dictates of parents' employment is not a solution either. Rather it is the re-organization of employment to take account of the needs of children and changes in the attitudes towards parents and the practice of the (sufficient) childcare facilities which will also affect what parents do and their definitions of parenting. It is a pity that these issues were not explored with the parents in this study.

Julia Brannen

Julia Brannen is a research officer at the Thomas Coram Research Unit, Institute of Education, London.

NOTICE BOARD

Noticeboard is compiled by Patricia Santinelli and Mila Goldie

Chairs

[illegible] Dunlop is appointed to the chair of obstetrics and gynaecology at the University of Newcastle-upon-Tyne.

Forthcoming Events

[illegible] Jones will be speaking on "The T and [illegible] Past and Present at the next History Workshop London Seminar at the Black Horse Tavern, Great Russell Street, Bloomsbury, London WC1 at 7.30pm on Monday December 6.

• • •

[illegible] Exhibitions at the British Library in December will be in the Exhibition Galleries in Great Russell Street, except for "The Many Rose and the Tudor Heritage and Documentary Evidence" in "Virginia Woolf and Bloomsbury," "Hebrew Manuscripts of the 20th century," "Illuminated Manuscripts from the Sassoon Collection", "Demons in Persian and Turkish Art" and "Christopher Saxton and Tudor Map-Making". Admission free.

• • •

[illegible] date of the 1983 Conference of Adult Course Leaders is the Continuing Education Centre, Wardens for Teachers in an Urban Area. The conference will be held [illegible] in association with, the School of Education, Exeter University, from April 11 to 14 and will offer a choice of six option studies [illegible] conference speakers including Clive Jenkins, Lord Taylor of Mansholt, Lord Owen and Ted Wragg. Open to [illegible] Details and brochures from [illegible] Continuing Education Centre, Park [illegible] Bridgewater, Somerset.

• • •

[illegible] Manual Advisory Body, the First Year, is [illegible] Institute of North East London Polytechnic's [illegible] Technical Hall Conference, to be held at [illegible] Bank, London on Friday December [illegible] Speakers will include William Waldegrave, [illegible] secretary of state for education, Christopher [illegible] Bell chairman of the NAB's board, John [illegible] secretary to the NAB's board, John [illegible] secretary of the NAB and Christopher [illegible] MP, chairman of the Select Committee [illegible] Education. Fee: £46. Details from Mr C. [illegible] Tee, NELP.

• • •

[illegible] conference on Saints and Their Cities in [illegible] and Italian Art is being held by the University of Warwick's Department of the History [illegible] on Saturday December 11. The main [illegible] will be Dr Alexander Murray of University [illegible] College, Oxford and Dr Dillian Gordon [illegible] National Gallery. Fee £4 including lunch. [illegible] from Professor Julian Gardner at the [illegible].

• • •

[illegible] conference on teaching research-based [illegible] possibilities and problems, will be held [illegible] Chalkhill Institute of Education from [illegible] 6 to 8, 1983. The conference will [illegible] key issues related to teaching research-[illegible] Places will be of particular interest [illegible] who plan to offer BEd and higher [illegible] courses. Details from Gillian Morley at [illegible], Shaftesbury Road, Cambridge.

• • •

[illegible] Southampton Council for Community [illegible] has organized a conference on the [illegible] Pennant in English Literature to take [illegible] on Monday December 6 at the Afro-[illegible] Cultural Centre. Among the speakers [illegible] be West Indian novelist and critic [illegible] Hands.

• • •

[illegible] Social Research Association's annual conference [illegible] meeting will be held at Kensington [illegible] Hall on Friday November 17 at 10am. [illegible] include David Donnison and Michael [illegible] on recent developments and future [illegible] in social research. Details from Chris [illegible], Social Research Association, 35 North [illegible] Square, London EC1.

• • •

[illegible] of lectures on De Gaulle, at University [illegible] London's Charles De Gaulle Institute [illegible] Wednesday December 1 with M. R. [illegible] on "De Gaulle et une certaine idée de [illegible]". The lecture is in the Gustav Tuck [illegible] on Gower Street. English translations [illegible] available.

• • •

[illegible] on development education in the [illegible] areas chaired by Mrs Ada Ford-[illegible] will take place at Southampton University [illegible] for international studies in education [illegible] December 9, as part of its series [illegible] in a plural world". The seminar [illegible] the university's department of education at [illegible] Details from Mrs D. L. Warwick at the [illegible].

"Ovaltinies 4" by John Wilkins is on show at the Riverside Studios in London until December 19. It is part of Simulacra, an exhibition of work selected by Michael Newman who teaches at St Martin's School of Art, as does John Stezaker whose work can also be seen. Jonathan Miles and Jan Wandja complete the quartet of artists represented.

Grants

Universities

Aberdeen
Unit for research on Addictive Drugs: £86,006 from the Medical Research Council to Professor H. W. Kosterlitz and Dr A. T. McKnight: for research into the occurrence, turn-over and release of opioid peptides in the central and peripheral nervous systems. £197,616 – Medical Research Council – Professor H. W. Kosterlitz: Research – classification of opioid peptides and possible physiological functions of multiple opiate receptors.
Bacteriology: £36,654 from the Medical Research Council to Dr F. Cash, Dr W. T. Melvin and Professor T. H. Pennington for research on polypeptide and genome variation among human rotavirus isolates: use of monoclonal antibodies and RNA sequencing.
Biochemistry: £31,553 from the Science and Engineering Research Council to Dr L. A. Fothergill for research on the determination of the structure of calcium-independent phosphodiesterase enzymes. £26,525 from the Agricultural Research Council to Dr S. B. Wilson for research on herbicide and plant mitochondrial ATPase. £17,870 from the Science and Engineering Research Council to Dr C. K. Pearson for research on maltenzyme complexes of DNA precursor pathways. The HSV-1 induced DNA precursor pathways. £12,924 from the Cancer Research Campaign to Professor H. M. Keir for research on the function(s) of acetyl derivatives of polyamines in normal and transformed mammalian cells in culture. £12,627 from the Cancer Research Campaign to Professor H. M. Keir, Dr F. B. Williamson and Dr W. F. Long for research on the heparin sulphates of normal and cancer cells. $22,000 from the US Department of Agriculture to Dr J. Jeffery for research on structural studies on rat liver glucose-6-phosphate dehydrogenase.
Bio-medical Physics and Bio-engineering: £19,467 from the Cancer Research Campaign to Professor J. R. Mallard and Dr D. J. Watkinson for research on investigation of the properties of overlapping ultrasonic fields with a view of obtaining differential damage to malignant tissues.
Engineering: £66,540 from the Science and Engineering Research Council to Dr W. F. Deans and Professor S. B. Reid for research on fracture under high rates of loading. £33, 978 from the Science and Engineering Research Council to Dr J. A. McCeough for research on design and construction of apparatus for electrochemical arc machining of dies and moulds. £32,264 from the Science and Engineering Research Council to Dr J. Bruce for research on self adaptive mesh generation as an aid to the efficient numerical solution of large scale field problems. £32,102 from the Science and Engineering Research Council to Mr P. Lacy and Professor J. R. Smith for an investigation of electrostatic phenomena in charged low conductivity liquids. £14,861 from the Ministry of Defence to Professor S. R. Reid for an investigation and evaluation of materials under stress wave loading.
Environmental and Offshore Medicine: £12,277 from the Department of Energy to Dr R. H. M. Dingwall for research on determining whether the heat exchange and breathing resistance of positive respiratory heat exchangers are acceptable for use by divers in isolated bells.
Forestry: 15,000 Swedish kroner from the Ministry of Natural Resources, Ontario to Dr C. P. Mitchell for planning for small scale biomass energy plantations.
Genetics: £19,264 from the Cancer Research Campaign to Dr J. L. Watt for research on Karyotypic analysis in relation to cancer susceptibility, aetiology and prognosis. £18,550 from the Cancer Research Campaign to Professor P. W. Cancer Research Campaign to Professor P. W. Roberson for research on the risk of ectoo/ Universily and Lamberton Robotics/Sonfor Engineering Limited, to investigate the application of modern techniques in design and manufacture to the construction of large robotic devices. under the direction of Professor J. Rorke. Mr N. E. Loch and Mr C. C. Smith
Department of Petroleum Engineering: £185.623 from Department of Energy, for three years, for phase behaviour studies of gas injection. under the direction of Professor G. Stewart and Dr A. C. Todd. £16,500 from Conoco (North Sea) UK Ltd, for a one-year feasibility study of a research investigation into the parameters associated with gas injection operations, under the direction of Mr J. M. Peden.
Geology and Mineralogy: £45,000 from the Australian Occidently Pty. Limited to Dr N. H. Trewin for research project on reservoir Geology Basin and NW. Australia.
Geophysics: £21,405 from the Natural Environment Research Council to Dr M. Miller for research on the geology of the Ellon (87W) Sheet.
Microbiology: £41,179 from the Science and Engineering Research Council to Professor I. A. Swinkels and Dr R. G. Hamilton for research on hydrogen metabolism in sulphate reducing bacteria. £10,124 from the Manpower Services Commission to Dr J. I. Prosser for research on the microbiology of the Burn O' Vat.
Obstetrics and Gynaecology: £49,348 from the Scottish Home and Health Department to Professor I. MacGillivray for research on the role of the midwife with particular reference to the extent of her responsibility within the maternity care team. £16,953 from the Scottish Home and Health Department to Professor I. MacGillivray for analysis of obstetrics data from the Aberdeen linked data bank.
Pathology: £18,007 from the Scottish Hospital Endowments Research Trust to Professor C. H. W Horne for Studies on pregnancy-associated α-glycoprotein as immunosuppressive agents present in IgA producing plasma cells. £11,771 from the Cancer Research Campaign to Professor C. H. W. Horne for an evaluation of human embryonic prealbumin as a tumour marker.
Pharmacology: £28,853 from the Wellcome Trust to Dr R. G. Pertwee for a study of changes in the functioning of the brain associated with the effect of Δ-tetrahydrocannabinol on thermoregulation.
Physical Chemistry: £18,450 from Shell UK Exploration and Production Ltd to Mr A. G. Kemp for comparative studies of oil and gas taxation.
Psychology: £53,122 from the Home Office to Mr J. W. Shepherd for improvement of existing photo-fit facilities and further development of facial retrieval systems (frame).
Therapeutics and Clinical Pharmacology: £48,000 from Geigy Pharmaceuticals to Dr J. C. Petrie and Dr G. M. Hawkesworth for Drug interaction studies in hypertension – Hydralazine. £45,000 from Imperial Chemical Industries to Dr G. M. Hawkesworth, Dr H. E. Barber and Dr J. C. Petrie for Drug interaction studies. £11,000 from the Department of Health and Social Security to Dr J. C. Petrie and Dr J. Webster for hypertension computing care.
Zoology: £19,525 from the Highlands and Islands Development Board to Dr I. G. Priede for research on autoimmune sterilisation of salmonids – histological evaluation. £13,873 – BNOC (Development) Limited – Dr D. G. Raffaelli and Dr P. R. Boyle: survey of intertidal invertebrates of Nigg.

Brunel
Biochemistry: £13,237 from the Cancer Research Campaign to Professor T. F. Slater for a study of disturbances of lipid peroxidation in cancer tissue, and relationship to prostaglandin metabolism (2nd year). £35,023 from the Nuffield Foundation to Dr. R. Willson for research on polypeptide and antioxidants in carcinogenesis and in the action of chemotherapeutic drugs.
Chemistry: £20,436 from BTG to Dr P. A. Sermon for research into selective catalysis of the conversion of coal to benzene. £13,440 from British American Tobacco Co to Professor G. C. Bond for an investigation of the mechanism of the retention of nitric oxide by carbon impregnated with nitro-benzene.
Mechanical Engineering: £16,369 from Bishop, Price and Partners Ltd to Professor W. O. Price for research in areas of ship dynamics.
Building Technology: £16,060 from US Department of Commerce (NBS) to Dr J. A. Swinkels for research into drainage systems (third year). £74,101 from Overseas Development Administration to Dr J. A. Swinfield for a water conserving sanitary system for developing countries.
Production Technology: £204,300 from SERC/ OKN Vandervell Ltd. to Professor R. W. New and Dr F. M. M. Lowe for a Teaching Company Programme between Brunel and OKN Vandervell Ltd.
Non-Metallic Materials: £115,615 from SERC to Professor M. J. Bovis and Mr G. R. Sothern for the development of new moulding technology for thermoplastics and composites. £17,250 from BTG to Dr J. Bowman for the purchase of equipment for research into hydroxyapatite reinforced polyethylene. £10,861 from UKAEA, Harwell, to Professor M. J. Bevis for work on the immobilisation of medium level radioactive waste in organic materials (extension).
Government: £45,000 from the DHSS to Professor M. Kogon for an evaluation of management advisory services. £26,777 from the DES to Professor M. Kogan for work on the expectations of higher education (additional funds).
Health Services Organisation Research Unit: £10,500 from the SW Thames Regional Health Authority to Mr S. Cang for collaborative work on forensic psychiatric services.

Heriot-Watt
Department of Brewing and Biological Science: £30,000 from Spyvcoed Laboratories Ltd. for "Project A" fermentation project, under the direction of Professor C. M. Brown. £60,672 from Adolph Coors Company, for three years, for malting barleys project under the direction of Dr D. I. Palmer.
Department of Computer Science: £63,902 from Science and Engineering Research Council, for three years, for an evaluation of adaptive dialogue for man-machine interface, under the direction of Mr N. A. Norman.
Department of Mechanical Engineering: £19,730 from Department of Industry National Engineering Laboratory, for one year, for investigation into automatic handling of pallets in flexible manufacturing systems, under the direction of Professor J. Rorke and Mr J. S. C. Davies. £77,400 from Science and Engineering Research Council, for three years, for Matching Support Programme between Heriot-Watt University and Lamberton Robotics/Sonfor Engineering Limited, to investigate the application of modern techniques in design and manufacture to the construction of large robotic devices. under the direction of Professor J. Rorke. Mr N. E. Loch and Mr C. C. Smith
Department of Petroleum Engineering: £185.623 from Department of Energy, for three years, for phase behaviour studies of gas injection. under the direction of Professor G. Stewart and Dr A. C. Todd. £16,500 from Conoco (North Sea) UK Ltd, for a one-year feasibility study of a research investigation into the parameters associated with gas injection operations, under the direction of Mr J. M. Peden.
Geology and Mineralogy: £45,000 from the Australian Occidently Pty. Limited to Dr N. H. Trewin for research project on reservoir Geology Basin and NW. Australia.
Geophysics: £21,405 from the Natural Environment Research Council to Dr M. Miller for research on the geology of the Ellon (87W) Sheet.
Microbiology: £41,179 from the Science and Engineering Research Council to Professor I. A. Swinkels and Dr R. G. Hamilton for research on hydrogen metabolism in sulphate reducing bacteria. £10,124 from the Manpower Services Commission to Dr J. I. Prosser for research on the microbiology of the Burn O' Vat.
Obstetrics and Gynaecology: £49,348 from the Scottish Home and Health Department to Professor I. MacGillivray for research on the role of the midwife with particular reference to the extent of her responsibility within the maternity care team. £16,953 from the Scottish Home and Health Department to Professor I. MacGillivray for analysis of obstetrics data from the Aberdeen linked data bank.
Pathology: £18,007 from the Scottish Hospital Endowments Research Trust to Professor C. H. W Horne for Studies on pregnancy-associated α-glycoprotein as immunosuppressive agents present in IgA producing plasma cells. £11,771 from the Cancer Research Campaign to Professor C. H. W. Horne for an evaluation of human embryonic prealbumin as a tumour marker.
Pharmacology: £28,853 from the Wellcome Trust to Dr R. G. Pertwee for a study of changes in the functioning of the brain associated with the effect of Δ-tetrahydrocannabinol on thermoregulation.
Physical Chemistry: £18,450 from Shell UK Exploration and Production Ltd to Mr A. G. Kemp for comparative studies of oil and gas taxation.
Psychology: £53,122 from the Home Office to Mr J. W. Shepherd for improvement of existing photo-fit facilities and further development of facial retrieval systems (frame).
Therapeutics and Clinical Pharmacology: £48,000 from Geigy Pharmaceuticals to Dr J. C. Petrie and Dr G. M. Hawkesworth for Drug interaction studies in hypertension – Hydralazine. £45,000 from Imperial Chemical Industries to Dr G. M. Hawkesworth, Dr H. E. Barber and Dr J. C. Petrie for Drug interaction studies. £11,000 from the Department of Health and Social Security to Dr J. C. Petrie and Dr J. Webster for hypertension computing care.
Zoology: £19,525 from the Highlands and Islands Development Board to Dr I. G. Priede for research on autoimmune sterilisation of salmonids – histological evaluation. £13,873 – BNOC (Development) Limited – Dr D. G. Raffaelli and Dr P. R. Boyle: survey of intertidal invertebrates of Nigg.

Brunel
Biochemistry: £13,237 from the Cancer Research Campaign to Professor T. F. Slater for a study of disturbances of lipid peroxidation in cancer tissue, and relationship to prostaglandin metabolism (2nd year). £35,023 from the Nuffield Foundation to Dr. R. Willson for research on polypeptide and antioxidants in carcinogenesis and in the action of chemotherapeutic drugs.
Chemistry: £20,436 from BTG to Dr P. A. Sermon for research into selective catalysis of the conversion of coal to benzene. £13,440 from British American Tobacco Co to Professor G. C. Bond for an investigation of the mechanism of the retention of nitric oxide by carbon impregnated with nitro-benzene.
Mechanical Engineering: £16,369 from Bishop, Price and Partners Ltd to Professor W. O. Price for research in areas of ship dynamics.
Building Technology: £16,060 from US Department of Commerce (NBS) to Dr J. A. Swinkels for research into drainage systems (third year). £74,101 from Overseas Development Administration to Dr J. A. Swinfield for a water conserving sanitary system for developing countries.
Production Technology: £204,300 from SERC/ OKN Vandervell Ltd. to Professor R. W. New and Dr F. M. M. Lowe for a Teaching Company Programme between Brunel and OKN Vandervell Ltd.
Non-Metallic Materials: £115,615 from SERC to Professor M. J. Bovis and Mr G. R. Sothern for the development of new moulding technology for thermoplastics and composites. £17,250 from BTG to Dr J. Bowman for the purchase of equipment for research into hydroxyapatite reinforced polyethylene. £10,861 from UKAEA, Harwell, to Professor M. J. Bevis for work on the immobilisation of medium level radioactive waste in organic materials (extension).
Government: £45,000 from the DHSS to Professor M. Kogon for an evaluation of management advisory services. £26,777 from the DES to Professor M. Kogan for work on the expectations of higher education (additional funds).
Health Services Organisation Research Unit: £10,500 from the SW Thames Regional Health Authority to Mr S. Cang for collaborative work on forensic psychiatric services.

Heriot-Watt
Department of Brewing and Biological Science: £30,000 from Spyvcoed Laboratories Ltd. for "Project A" fermentation project, under the direction of Professor C. M. Brown. £60,672 from Adolph Coors Company, for three years, for malting barleys project under the direction of Dr D. I. Palmer.
Department of Computer Science: £63,902 from Science and Engineering Research Council, for three years, for an evaluation of adaptive dialogue for man-machine interface, under the direction of Mr N. A. Norman.
Department of Mechanical Engineering: £19,730 from Department of Industry National Engineering Laboratory, for one year, for investigation into automatic handling of pallets in flexible manufacturing systems, under the direction of Professor J. Rorke and Mr J. S. C. Davies. £77,400 from Science and Engineering Research Council, for three years, for Matching Support Programme between Heriot-Watt University and Lamberton Robotics/Sonfor Engineering Limited, to investigate the application of modern techniques in design and manufacture to the construction of large robotic devices. under the direction of Professor J. Rorke. Mr N. E. Loch and Mr C. C. Smith

Polytechnics

Sheffield City Polytechnic has made honorary awards of fellowships of Sheffield City Polytechnic to: Professor William Carr, professor of history at the University of Sheffield; Sir Kenneth Corfield, chairman of the Engineering Council; Dr Marion Jepson, former community specialist in child health, Sheffield Area Health Authority; Herbert E. McGee, past Master Cutler; Sir John Bone; lecturer in social administration, Dr Stuart Lowe; tutor in art, Ms Helen Ventress; temporary lecturer in chemistry, Dr Roderick Hubbard.

Newcastle upon Tyne
Dean of the faculty of engineering, Professor J. B. Caldwell: industrial and psychological sciences, Dr R. N. McBurney; personal readership in faculty of agriculture, Mr M. C. Whitby; lecturer in department of Spanish and Latin American studies, Dr R. W. Fiddian.

Queen's College, Glasgow
Senior lecturers, Dr R Chalmers and Mr D. McLean (physiotherapy); Mr S. Collins (social work); lecturers, Dr M. Nimmo (physiology). Mr J. Smith (food science); Mr G. Woolfenden (catering studies); Miss B. O'Neill (catering studies); Mrs P. Letten (home economics), Mr R. Ellis (communication studies).

Open University programmes December 4 to December 10

Saturday December 4

[illegible] Home: Building for the Future [illegible]

[illegible] Tell me when it hurts (P921; prog [illegible])

[illegible] Joining In (P912; prog [illegible])

[illegible] The Community (P470; [illegible])

Sunday December 5

[illegible] Voluntary Workers in [illegible] (P921; prog 8).

[illegible] Maternal Recognition [illegible] (P912; prog 9).

[illegible] Course: Preparatory Maths [illegible] prog MA(54).

RADIO 8 (VHF)
7.18 The Pre-School Child: You Tell Us (P912; prog 4).
7.48 Consumer Decisions: Consumer Groups (P931; prog 4).

Thursday December 9

BBC2
12.00* Parents and Teenagers: Three's Company (P914; prog 3).
12.28* Technology Foundation Course: Facts are not enough (T101; prog 1).

Friday December 10

RADIO 3 (VHF)
09.30 Technology Foundation Course: Values (T101; prog 1).
09.40* Into the Open – 4. Preparing your home and your family (prog 4).
*repeated programmes

Appointments

Universities

York
Dr Keith Hartley, reader in the department of economics and related studies, becomes director of both of the Institute for Research in the Social Sciences and of the Institute for Social and Economic Research. Dr Colin Campbell, Senior Lecturer in the department of sociology and Mr Albert Weale, Research Fellow in the Social Policy Research Unit, become assistant directors of the Institute for Research in the Social Sciences.

Mr David Foster, at present Senior Assistant Registrar, becomes Acting Registrar until December 1983: Mr Peter Smith, at present Senior Assistant Registrar, becomes Acting Academic Registrar for the same period.

Temporary lecturer in economics and related subjects: Mr John Bone; lecturer in social administration, Dr Stuart Lowe; tutor in art, Ms Helen Ventress; temporary lecturer in chemistry, Dr Roderick Hubbard.

Newcastle upon Tyne
Dean of the faculty of engineering, Professor J. B. Caldwell: industrial and psychological sciences, Dr R. N. McBurney; personal readership in faculty of agriculture, Mr M. C. Whitby; lecturer in department of Spanish and Latin American studies, Dr R. W. Fiddian.

Queen's College, Glasgow
Senior lecturers, Dr R Chalmers and Mr D. McLean (physiotherapy); Mr S.

CLASSIFIED ADVERTISEMENTS

The Times Higher Education Supplement

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The Advertisement Manager,
The Times Higher Education Supplement,
Priory House, St John's Lane, London EC1M 4BX.
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Appointments

Universities Fellowships Research and Studentships Polytechnics Colleges of Higher Education Colleges with Teacher Education Colleges and Institutes of Technology	Technical Colleges Colleges of Further Education Colleges and Departments of Art Administration Overseas Adult Education Librarians General Vacancies Industry and Commerce

Other classifications

Exhibitions Awards Conferences and Seminars Courses	Personal For Sale and Wanted Holidays and Accommodation

Universities

THE UNIVERSITY OF ASTON IN BIRMINGHAM

CAREERS AND APPOINTMENTS OFFICER

CAREERS AND APPOINTMENTS SERVICE
Salary Scale – Administrative Grade III – £12306–£16410

The University of Aston, situated in the heart of the City of Birmingham wish to appoint a graduate for the post of Careers and Appointment Officer.

Applicants should be graduates with relevant experience of careers advisory work in higher education and of employment in industry or commerce.

The successful applicant, male or female, will be responsible for all aspects of work relating to the Careers and Appointments Service which advises students on careers, employment, further education and training and provides an information and placement service.

As a result of proposals for re-organisation currently under consideration, the person appointed will also oversee the Schools' Liaison Service and the University Information Office.

Application forms and further details (quoting Ref. O/582/(THES) from:
Mr. A.G. Ross, Staffing Department,
University of Aston in Birmingham,
Gosta Green, Birmingham B4 7ET.
Tel: 021-359 3611 Ext. 4570.
Closing date: 17th December, 1982.

UNIVERSITY OF LONDON
GOLDSMITHS' COLLEGE

FINANCE OFFICER

Applications are invited for the above appointment from qualified accountants with extensive financial and administrative experience at senior level. This important post carries full responsibility for the financial administration of the College which has an annual budget of approximately £13 million. The Finance Officer will also be a member of a senior administrative team concerned with the management of the College as a whole. It is hoped that the successful candidate will take up duties as soon as possible.

Salary on the scale £16,701 × 3 increments to £18,324 p.a. inclusive of London Weighting.

Write for further particulars to the Personnel Officer, University of London, Goldsmiths' College, New Cross, London SE14 6NW, to whom curricula vitae (in duplicate including names and addresses of 3 persons to whom reference may be made), should be submitted no later than 17th December, 1982.

UNIVERSITY OF GLASGOW & STRATHCLYDE

SIX LECTURESHIPS IN BIOTECHNOLOGY

As a consequence of the UGC decision to support new joint biotechnological developments at the Universities of Glasgow and Strathclyde, applicants for six new lectureships are invited.

Applications are sought from individuals who have the ability and drive to direct their own research and promote inter-University collaborations in Gene Manipulation and Biochemical Engineering/Fermentation Technology. Appointments in the former area will be located at Glasgow University, whilst those in the latter will be at Strathclyde University. Though the appointments will be formally located in one University or the other, each will be a joint appointment enjoying honorary status in the other. Those appointed will be expected to teach in both Universities and to have a commitment to joint biotechnological developments. In teaching, a major role of the new staff is envisaged in the training of research students and in the provision of post-experience short courses. A minor role in undergraduate teaching is also planned. Whereas for some of the positions a proven research record will be more important than industrial experience, the applied positions may be best suited to applicants with experience in industry.

Applications are therefore invited from candidates with expertise and interests in the following areas:
1. Yeast molecular biology. (Glasgow)
2. Gene manipulation and transfer in cultured animal cells. (Glasgow)
3. Animal cell technology, especially cell culture technology and cell fusion techniques. (Strathclyde)
4. Fermentation technology, especially that involving fungi. (Strathclyde)
5. Chemical engineering, particularly recovery process technologies. (Strathclyde)
6. The genetics and physiology of bacterial host-vector systems, particularly those intended for the expression of biotechnological products. (Glasgow)

The salary will be on the Lecturer scale £6,375–£13,605. Superannuation benefits. The starting salary will depend on age, qualifications and experience.

Further information is available from the Registrars of either University
– University of Glasgow, Personnel Office, Glasgow G12 8QQ
University of Strathclyde, Academic Staff Office, Room 2.33 McCance Building, Richmond Street, Glasgow G1 1XQ. Please quote reference 42/82.

Applications (8 copies) including full curriculum vitae and names of three referees, should be sent to appropriate Universities by Friday, 28 January, 1983.

NATIONAL INSTITUTE FOR HIGHER EDUCATION DUBLIN
Applications are invited for the post of:-

Assistant Lecturer in Communications

The successful candidate will be located within the School of Communications, which has recently moved to purpose-built accommodation. The School has its own television, sound, graphics, print and photography studios, together with access to the institute's computing and learning resource centres. The School has responsibility for the BA (Honours) programme in Communication Studies, a Graduate Diploma in Journalism and a variety of service teaching to other Faculties.

The School seeks candidates in all areas of communications, but is particularly interested in candidates with interests in the following: Informatics, International Communication, Advertising, Public Relations and Media Production. Lecturers will be expected to supervise final year projects and post-graduate students in their respective disciplines. Candidates should be well qualified academically and in addition have substantial research interests and should have had industrial, business, academic or research experience.

Salary Scale: IR£9,296 - IR£11,357.

Application forms and further details are available on written request from The Personnel Office, National Institute for Higher Education, Glasnevin, Dublin 9, Ireland to whom they should be returned by 17 December, 1982.

University of Birmingham
Faculty of Commerce and Social Science
Department of Sociology

LABOUR AND EMPLOYMENT IN THE U.S.S.R. RESEARCH ASSOCIATE/-RESEARCH FELLOW

This SSRC supported project is under the Direction of Professor David Lane. Applicants must have an excellent knowledge of the Russian language and an understanding of problems of contemporary Soviet labour.

Post tenable for fifteen months. Salary on Research Assistant 1A scale (£6,057 or £6,681) or Research Fellow 1A scale (£7,317 or £8,067) depending on qualifications and stage of the candidate. Starting salary, depending on age and experience, not expected to exceed £8,682.

Further particulars and application form from the Assistant Registrar (Committee), University of Birmingham, PO Box 363, Birmingham B15 2TT. Telephone enquiries to 021-472 1301 (24 hour answering service). Completed forms must be returned by Friday 14th December, 1982 quoting reference 0/SR/82/HS

University of Surrey
Department of Metallurgy and Materials Technology

MATERIALS RESEARCH

Applications are invited for the following two posts in this research group directed by Professor Gordon Cullen in the Department of Metallurgy and Materials Technology.

1. Project Chemistry
Electrochemical properties of thin passive films on metals. Deformation of ORP films.

2. Environmental effects on the mechanical properties of metals

These posts are funded by industrial consortia for an initial period of 3 years, renewable for one year in the first instance.

Further particulars are available from the undersigned quoting the relevant reference number and the closing date for applications (January 1983).

University of Reading
Department of Psychology

TWO LECTURERS IN PSYCHOLOGY

Applications are invited for two posts from candidates with good backgrounds in experimental Psychology. One post is for teaching and research in Cognitive Psychology and the interest in applied aspects will be an advantage. The other post is for teaching and research in Developmental Child Psychology, preferably with an emphasis on infants and young children. One or both of the lecturers will be expected to contribute to teaching statistical design and statistics.

Both appointments are for five years fixed term on the lecturers scale £6,375–£13,605 to commence 1st October or 1st September 1983 if a starting date cannot be negotiated earlier.

Application forms and further particulars may be obtained from the Personnel Officer, University of Reading, Reading, Berks RG6 2AH, please quoting reference 1/1982. The closing date for applications is January 1983.

University of Birmingham
Department of Theology

LECTURESHIP IN PASTORAL STUDIES

Applications are invited for a lectureship in Pastoral Studies in the Department of Theology from persons in the first instance for a period of three years, with the possibility of renewal.

Salary on the lecturer scale £6,375–£13,605 plus superannuation.

Further particulars from the Registrar, University of Birmingham, PO Box 363, Birmingham B15 2TT, to whom application forms should be returned by 17 December 1982.

The University of Papua New Guinea
Goroka Teachers College

Applications are invited from suitably qualified persons for the position of:

LECTURER/SENIOR TUTOR/TUTOR IN HOME ECONOMICS AND COMMERCE

Applicants should have qualifications and experience in teaching both subjects and the position is envisaged between the Department of Home Economics and Commerce. Applicants should be suitably qualified in Education and with qualifications to at least first degree level in one of these two subjects and preferably to second degree level in both. Teaching experience in secondary schools or in other relevant institutions is highly desirable.

Salary K11896–K17010 per annum (£1 = K1.3966 approximately).

Three-year contracts; gratuity; support for approved courses; return fares; free accommodation; furniture allowance; baggage allowance; leave fares; free medical treatment; subsidised salary continuation for wife and children; subsidised schooling for children; assistance with finding employment for spouse. Applications (6 copies) including curriculum vitae and names of three referees should be sent to the Assistant Registrar (Academic Staff), University of Papua New Guinea, Box 320, University, Papua New Guinea by 15 December 1982. Applicants should also write to Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF, requesting application forms.

Further particulars may be obtained from the Registrar, The University, Newcastle upon Tyne NE1 7RU, with whom applications (15 copies) giving names of three referees should be lodged by 4th February 1983. (Applicants from outside the U.K. may submit one copy only). 815

University of Birmingham
Institute of Local Government Studies

ADMINISTRATIVE ASSISTANT

Applications are invited for this post, the work of which is concerned with the development and management of information and financing systems. The successful candidate will be required to maintain financial records, prepare budgets and estimates. Applicants must be graduates or equivalent and have a University degree or professional qualification with not less than two years' post-graduate experience in Local Authority Finance or Local Government. Salary on scale up to £8370 p.a.

Further particulars and application forms are obtainable from the Senior Assistant Secretary, University of Birmingham, P.O. Box 363, Birmingham B15 2TT, to whom application forms should be returned by 31st December 1982. 811

University of Newcastle Upon Tyne

CHAIR OF CIVIL & HYDRAULIC ENGINEERING

Applications are invited for the Chair of Civil & Hydraulic Engineering to be held from 1st October 1983 or on such other date as may be agreed. The Chair is open to candidates with a record of research in any area of hydraulic engineering.

Salary will be on the professorial scale. Membership of a University superannuation scheme will be required.

Further particulars may be obtained from the Registrar, The University, Newcastle upon Tyne NE1 7RU, with whom applications (15 copies) giving names of three referees should be lodged by 4th February 1983. (Applicants from outside the U.K. may submit one copy only). 815

Application forms and further details (quoting Ref. O/582/(THES) from:
Mr. A.G. Ross, Staffing Department,
University of Aston in Birmingham,
Gosta Green, Birmingham B4 7ET.
Tel: 021-359 3611 Ext. 4570.
Closing date: 17th December, 1982.

University of Oxford
Lincoln College

JUNIOR RESEARCH FELLOWSHIP IN HISTORY

The College invites applications from graduates of either sex, under 28 years of age on 1st October 1983 for a Junior Research Fellowship in the branch of Medieval or Modern History tenable for three years from October 1983. Applications will be welcomed from older candidates who can be entertained on special terms. The present assessed stipend is £6,375 per annum, plus family allowances. Further particulars and application forms may be obtained from the Rector, Lincoln College, Oxford, OX1 3DR, to whom applications should be submitted by 31st January, 1983. 811

University of Stratholyde

DEPUTY REGISTRAR

Applications are invited from graduates with appropriate administrative experience for a post of deputy Registrar. Responsibilities will be in the area of Court, Secretariat, Safety and Security.

Appointment will be on Grade IV of the scheme for administrative and clerical staff (£9,180 per annum), or exceptionally on Grade III (£12,630 to £16,140 per annum). Usual benefits.

Application forms and further particulars (quote 40/82) may be obtained from the Secretary, Staff Office, the University, Richmond Street, McCance Building, 16 Richmond Street, Glasgow G1 1XQ. Closing date – 20 December 1982.

Universities continued

AUSTRALIA

Applications are invited for the following posts, for which applications close on the dates shown. SALARIES (unless otherwise stated) are as follows: Research Fellow $A22,430–$A28,691; Senior Research Fellow $A29,320–$A37,372; Research Professor $A32,438–$A39,457. Further details and application procedure may be obtained from The Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF unless otherwise stated.

La Trobe University, Melbourne

LECTURER IN RESEARCH METHODS IN EDUCATION FIXED TERM – 4 YEARS

School of Education

Applicants should be familiar with contemporary and recent research in education. In addition to general knowledge of research methods in education, the appointee will be expected to advise staff and students on statistical problems and experimental design. To commence Term 1 1983 or earlier if possible. Under certain circumstances a three-year appointment may be extended by a further period of up to 2 years. 7 January, 1983.

The Australian National University

RESEARCH FELLOW/ SENIOR RESEARCH FELLOW: DEPARTMENT OF DEMOGRAPHY

Research School of Social Sciences

Tenure will be for a period of 3 years in the first instance. Start of funding to be available, but a later starting date may be possible. As well as lecturing in the appointee will be expected to supervise graduate students and undertake research in the Department of the Program.

Ref. C (Demography) Program is a research degree towards a PhD. Applicants should have a PhD or equivalent and expertise in an appropriate area such as topological group representations, C^*-algebras, or ergodic theory.

The position is available from May 1983 and appointment will be to 31 December, 1983, in the first instance. Commencing salary according to qualifications and experience. 7 January, 1983.

The University reserves the right not to make an appointment or to make an appointment by invitation at any time. 20 January, 1983.

The University of New South Wales, Sydney

RESEARCH ASSOCIATE SCHOOL OF MATHEMATICS

To participate in an ARGS funded research program, investigating structure of dynamical systems which is conducted jointly by Professor G. Brown and Drs. I. Raeburn and C.H. Sutherland. Applicants should have a PhD or equivalent and expertise in an appropriate area such as topological group representations, C^*-algebras, or ergodic theory.

The position is available from May 1983 and appointment will be to 31 December, 1983, in the first instance. Commencing salary according to qualifications and experience. 7 January, 1983.

Monash University, Melbourne

(3 YEAR FIXED TERM) DEPARTMENT OF SLAVIC LANGUAGES LECTURER

Two year sequence for students with previous knowledge of Ukrainian. Native fluency in Ukrainian and English, higher degree in Ukrainian, or closely related subject, teaching experience. Preferably a linguist but literature specialists considered as well. Appointment begins 1/2/83. Travel, removal and registration expenses. Applications including Ref. no. P1612, curriculum vitae and 3 referees to the Registrar, Monash University, Clayton, Vic. 3168, Australia, with a copy to the Association of Commonwealth Universities (Appts). 31 December 1982.

Griffith University, Brisbane

LECTURER: SCHOOL OF HUMANITIES AUSTRALIAN POLITICAL ECONOMY (CONTINUING APPOINTMENT)

The School of Humanities is seeking a lecturer in the field of Australian political economy, with special interests in Australian and comparative economic and labour history. Interests in some of the following areas will be considered positively: regional studies; public policy issues; social and labour history; Australia and the international system; debates in social and economic history.

In the first instance, the appointee will contribute to the development and teaching of a programme in comparative and Australian studies designed specifically for part-time students, the first of whom will be admitted in 1983.

The appointee should hold a higher degree relevant to teaching and research in the field of Australian political economy.

The position will date from mid 1983. 14 January, 1983.

The University of Leeds
Department of Social Policy and Health Services

LECTURERSHIP IN ECONOMIC AND FINANCIAL MANAGEMENT

Applications are invited from suitably qualified persons, regardless of sex, race, colour or origin, for appointment to the above post. The successful applicant will be required to contribute fully in both the teaching and research activities of the Department. The post will be within the range Lecturer A Grade I/Senior Lecturer (£6,375 to £10,545 per annum) A contract appointment (£1 = R1.87 approx.).

Interested applicants should obtain the information sheet relating to these posts from the Secretary of the Universities Central Council on Admissions, Chichester House, 209 High Holborn, London WC1V 7HE England or from the Staffing (Planning and Control) Office, University of Leeds, Leeds LS2 9JT, quoting reference number 82/0/0 and enclosing a stamped addressed envelope. Closing date for applications 3 January 1983.

The University of Leeds
Department of Mathematics

ADDITIONAL CHAIR OF MATHEMATICS

Applications are invited from suitably qualified persons, regardless of sex, race, colour or origin, for appointment to the above post. The successful applicant will be required to contribute fully in both the teaching and research activities of the Department. The post will be within the range Lecturer A Grade I/Senior Lecturer (£6,375 to £10,545 per annum) A contract appointment (£1 = R1.87 approx.).

Interested applicants should obtain the information sheet relating to these posts from the Secretary of the Universities Central Council on Admissions, Chichester House, 209 High Holborn, London WC1V 7HE England or from the Staffing (Planning and Control) Office, University of Leeds, Leeds LS2 9JT, quoting reference number 82/0/0 and enclosing a stamped addressed envelope. Closing date for applications 3 January 1983.

University of the Witwatersrand, Johannesburg
Graduate School of Translators and Interpreters

HEAD OF THE SCHOOL (SENIOR LECTURER)

Applications are invited from suitably qualified persons, regardless of race, colour or nationality or sex for appointment to the above post. The successful applicant will be in charge of the School, will participate in the teaching and research efforts.

A degree or diploma in Translating and Interpreting, as well as professional experience in these fields is essential. A limited amount of professional consultancy work will be permitted.

The salary attached to the post will be within the range R19 287 per annum – R24 045 per annum. In addition to this a cost of living allowance is payable. Other benefits include assistance with pension, medical and housing facilities and a gratuity at the end of the contract.

Interested applicants should obtain the information sheet relating to these posts from the Secretary of the Universities Central Council on Admissions, Chichester House, 209 High Holborn, London WC1V 7HE England or from the Staffing (Planning and Control) Office, University of Leeds, Leeds LS2 9JT, quoting reference number 82/0/0 and enclosing a stamped addressed envelope. Closing date for applications 3 January 1983.

University of Surrey
Department of Mathematics

RESEARCH FELLOWSHIP

Applications are invited for a Research Fellowship tenable for three years. Particulars of salary and conditions of service will be in accordance with the Science Research Council's Rules for Research Assistants and Fellows. Applicants should have a good honours degree in Mathematics and a research degree or equivalent experience in Mathematical Physics. Applications, including a curriculum vitae and the names of two referees, should be sent to Professor J.E. Adkins, Department of Mathematics, University of Surrey, Guildford, Surrey GU2 5XH, from whom further details are available. Closing date for applications 31st December 1982.

Applications in the form of a curriculum vitae, list of publications, and including the names of two referees should be sent to the Secretary, Department of Mathematics, University of Surrey, Guildford, Surrey GU2 5XH, from whom further details are available. Closing date for applications 31st December 1982.

University of Birmingham
Department of Chemical Engineering

RESEARCH FELLOWSHIP

Applications invited for post of Research Fellow tenable for three years. Project supported by SERC concerned with comprehensive process analysis with reinforced plastics. Applicants should have a degree in Chemical Engineering or equivalent and relevant research experience.

Salary on Research Fellow 1A scale £6,057 to £6,681 per annum plus superannuation. Commencing salary will depend upon qualifications and experience.

Closing date 16 December 1982.

No formal application form. Three copies of application letter including full curriculum vitae and naming three referees to be sent to the Registrar, The University, PO Box 363, Birmingham B15 2TT, quoting Ref. No. 513. Further particulars may be obtained by telephone 021-472 1301 ext. 2589 quoting ref. 13/Fuel. HS

The University of Leeds
Department of Computer Studies

COMPUTING ASSISTANT

Applications are invited for the post of Computing Assistant in the Department. Applicants will be responsible for the computer facilities and software engineering and digital systems laboratories. Some teaching.

Salary on the 1B Grade of the scale for other staff (£5,580 – £8,370) according to qualifications and experience.

Informal enquiries may be made to D. Shuttleworth (0532) 431791 Ext 6118.

Application forms and further particulars may be obtained from the Registrary, The University, Leeds LS2 9JT quoting reference number 82/0/0. Closing date for applications 31 February 1983. H1

THE CHINESE UNIVERSITY OF HONG KONG

Applications are invited for the following posts tenable from August 1983:

FACULTY OF BUSINESS ADMINISTRATION

The Faculty of Business Administration offers undergraduate (BBA) and graduate (MBA) programmes in business administration.

(1) Senior Lecturer/Lecturer in Accounting – To teach courses in Financial Accounting, Management Accounting, Current Accounting Theory and Practice, and Auditing.

(2) Senior Lecturer/Lecturer in Finance – Applicants should specialize in Finance with primary teaching interest in Financial Management, Investment Management, Security Analysis, International Finance, and Money and Banking.

(3) Lecturer in Management – Applicants should be able to teach in one or more of the following areas: Industrial Relations, Labour Law, Small Business Management, R & D Management, Compensation Management, Business Policy, and Strategic Planning.

(4) Senior Lecturer/Lecturer in Marketing and International Business – Applicants should be able to teach in one or more of the following areas: Consumer Behaviour, Advertising, Sales Management, International Marketing, Marketing Management, Industrial Marketing, Service Marketing, Transnational Corporations, Comparative Management Systems, and Import-Export Business.

FACULTY OF SOCIAL SCIENCE

(5) Lecturer/Assistant Lecturer in Anthropology – This opening is for an anthropological linguist or an archaeologist. Areal/theoretical specialization open, but candidates should (a) be able to teach introductory languages and culture; (b) have a working knowledge of Chinese; (c) be able to teach courses or train students in the use of computers in anthropology; and (d) be able to develop new courses in their speciality, whether linguistics or archaeology. Ability to teach general introduction desirable. To be appointed as Lecturer, applicants must have obtained Ph.D. by August 1, 1983. Applicants who have completed all examinations and are Ph.D. candidates may be appointed as Assistant Lecturer.

(6) Senior Lecturer/Lecturer in Public Law – The appointee will be attached to the Department of Government and Public Administration and will teach courses in public law (law and society, constitutional law, administrative law). He will also be responsible for developing a law programme, including research projects on recent legal development in China. Candidates should have appropriate legal training and qualifications. Familiarity with both Anglo-American and Chinese legal systems would be a distinct advantage. Applicants for Senior Lecturer should have teaching/working experience and academic publications.

(7) Senior Lecturer/Lecturer in Social Work – To teach courses in "Law and Social Work", "Rehabilitation" or "Seminar on Selected Topics". Applicants must have at least MSW but holders of doctoral degree are preferred. Applicants must be prepared to teach in summer term.

SCHOOL OF EDUCATION

(8) Lecturer in Education – To teach postgraduate courses relating to (a) Sociology of Education or (b) Teaching of Mathematics and of Computer Studies in the Secondary School.

(9) Temporary Lecturer in Education (3 years) – To teach postgraduate courses relating to Teaching of English Language in the Secondary School.

Appointees should be knowledgeable of educational developments in Hong Kong and elsewhere, and are expected to supervise postgraduate students in their research.

PART-TIME DEGREE PROGRAMMES

(10) Senior Lecturer/Lecturer in Business Administration – To teach courses in Organization and Management Theory, and Economics for Business.

(11) Senior Lecturer/Lecturer in Business Administration – To teach courses in Organization and Management Theory, and Quantitative Methods.

PHYSICAL EDUCATION

(12) Deputy Director of Physical Education (Lecturer rank) – To assist the Director of Physical Education to plan, promote and coordinate the physical education without the University; to assist in planning of physical education minor programme. Applicants should preferably possess a higher degree in Physical Education, with substantial experience in teaching and administration.

GENERAL REQUIREMENTS: Except otherwise specified, applicants for Lectureships should have a higher degree (preferably a Ph.D.) in the relevant field, with appropriate university teaching and/or research experience.

ANNUAL SALARY:

Senior Lecturer	HK$202,140 – 271,560 by 8 increments
Lecturer:	HK$129,840 – 147,360 by 2 increments BAR HK$156,120 – 217,380 by 7 increments
Assistant Lecturer:	HK$94,800 – 121,080 by 3 increments

Exchange rate approximately
US$ = HK$8.5, £1 = HK$10.7

Starting salary and grade to be offered will depend on qualifications and experience.

CONDITIONS OF SERVICE: Benefits include vacation/annual leave, sick leave, long leave with full pay, superannuation (University 15%, appointee 5%), medical benefits, education allowance for children, housing allowance for those whose annual salary is HK$138,600 or above, and for appointees on overseas terms, passage benefits for themselves and their dependents as well.

APPLICATION PROCEDURE: Applications should be made out in duplicate, giving full particulars, experience and the names and addresses of 3 persons to whom reference may be made, and sent to Secretary, Appointments Section, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong not later than *February 1, 1983*. Please mark 'Recruitment' on cover.

THE UNIVERSITY OF AUCKLAND
New Zealand

ELECTRICAL AND ELECTRONIC ENGINEERING – CHAIR IN ELECTRONICS

Closing date: 28 February 1983

Applicants must have appropriate qualifications and a strong research record with extensive teaching experience at the tertiary level. Expertise is required in one or more of the areas within the general field of electronics comprising electronic system design, semiconductor electronics, digital techniques, microprocessor applications, signal processing, control engineering, communication electronics and mobile radio systems. A strong interest in promoting joint activities with the innovative sectors of the NZ electronics industry is desirable.

COMMERCIAL LAW – ASSOCIATE-PROFESSORSHIP
Department of Accountancy

Closing date: 21 January 1983

Applicants should have appropriate academic qualifications and have had some professional or research experience. The position will carry administrative responsibilities in the area of Commercial Law.

CHEMICAL AND MATERIALS ENGINEERING – LECTURESHIP/SENIOR LECTURESHIP

Closing date: 15 February 1983

Applicants should be highly qualified Chemical Engineers who are able to teach Chemical Engineering Design at an undergraduate level. A proven research interest is required and familiarity with computer aided design would be an advantage.

MECHANICAL ENGINEERING – LECTURESHIP

Closing date: 28 February 1983

Applicants must have a strong academic background in mechanical engineering and postgraduate qualifications are desirable. It is expected that the person appointed will have qualifications and experience in one or more of digital control technology, modern manufacturing technology, planning and costing of mechanical engineering projects, engineering economics.

HEAVY ENGINEERING RESEARCH FELLOWSHIP (3 year term)
Department of Mechanical Engineering

Closing date: 31 January 1983

The Fellowship is sponsored by the Heavy Engineering Research Association of New Zealand. Applicants should have a good degree in engineering and some professional engineering experience preferably in an area closely related to the heavy metal fabrication industry. Duties will include research into a topic(s) of concern to the NZ heavy engineering industry. Salary will be within the range of lecturers.

PHYSICS – LECTURESHIP

Closing date: 28 February 1983

Applicants must be suitably qualified and preferably have had some teaching experience. The person appointed will be expected to lecture and supervise laboratories at all levels and undertake research in an appropriate field.

Commencing salaries will be established in accordance with qualifications and experience within the following ranges: Professors NZ$41,937–NZ$52,482; Associate-Professors NZ$37,866; Senior Lecturers NZ$27,088–NZ$30,127; Lecturers NZ$21,660–NZ$25,684 per annum.

Conditions of Appointment and Method of Application are available from the Assistant Registrar (Academic Appointments), University of Auckland, Private Bag, Auckland, New Zealand, or from the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF. Applications, in accordance with 'Method of Application' should be forwarded as soon as possible but not later than the closing dates stated.

University of Canterbury
New Zealand
Department of Electrical and Electronic Engineering

SENIOR LECTURER OR LECTURER

Applications for the above position are invited from well qualified persons in the fields of microwaves, microwave integrated circuits, integrated optics and digital signal processing. Applicants should have a minimum of three years from October 1983 in these specialist areas. Salaries will be negotiable according to qualifications and experience. Lecturer salaries range from NZ$21,660 to NZ$25,684 per annum. Senior Lecturer salaries range from NZ$27,088 to NZ$30,127 per annum. Applicants should normally have a higher degree in Electrical Engineering or equivalent. Preference will be given to applicants with a PhD. Applicants should have a strong interest in undergraduate teaching and research activities in the Department.

Universities continued

LADY MARGARET HALL
OXFORD

TEMPORARY LECTURER IN ECONOMICS

Applications are invited for a limited-term post as College Lecturer in Economics, tenable from 1 October, 1983. The holder will be expected to teach a minimum of eight hours a week, primarily in the Honour School of PPE. Salary, dependent on age and experience, will be not less than £4,400 p.a. The Lecturer will be entitled to free residence (for a single person) in College.

Further particulars may be obtained from the College Secretary, Lady Margaret Hall, Oxford OX2 6QA. The closing date for receipt of completed applications is 10 January, 1983.

University of the West Indies
Bahamas

LECTURER/ ASSISTANT LECTURER IN HOTEL MANAGEMENT DEGREE PROGRAMME

Applications are invited from suitably qualified candidates for the post of Lecturer/Assistant Lecturer in Hotel Management Degree Programme at University of the West Indies. The present vacancy is in the area of Food and Beverage Management and the appointee will be stationed in the Bahamas.

Food and Beverage curriculum includes Food Science, basic food preparation, planning & cost control & beverage management. A practical laboratory course with meals served to the public culminates the course work.

Salary Scales
Lecturer: Bah $16,064–20,154
Assistant Lecturer: Bah $13,824–17,748
(NB Income tax not payable in the Bahamas)
(£1 sterling = Bah $1.6825)

Furnished accommodation, if available, will be provided at a rental of 15½% of salary; alternatively the staff member may opt for a housing allowance of 30% of basic salary. Annual study and travel grants. Provisions made for transfer of fares, full passage (economy class) on appointment and on normal termination.

Detailed applications (2 copies) giving particulars of qualifications, and experience, date of birth, marital status, and names and addresses of referees, should be sent as soon as possible to the Registrar, University of the West Indies, Mona, Kingston 7, Jamaica, W.I. Applicants resident in the UK should also send a copy to ORAU, The British Council, 90-91 Tottenham Court Road, London W1P 0BT quoting reference 0316/82. H1

University of Oxford
Lincoln College

JUNIOR RESEARCH FELLOWSHIP IN LAW

The College invites applications from graduates of any age, men or women, for the Junior Research Fellowship in Law or Legal Studies, tenable for three years from October 1983, applicants from older candidates being encouraged in special circumstances. The present stipend is £6,570, rising to £7,695, plus allowances.

Further particulars and application forms may be obtained from the Secretary, Lincoln College, Oxford, OX1 3DR, to whom applications should be submitted by 7th January, 1983. H1

University New South Wales
Sydney, Australia
School of Pathology

LECTURER/SENIOR LECTURER

Applications are invited from medical graduates with qualifications registrable in New South Wales for a fixed term appointment for a period of three years commencing early in 1983.

The level of appointment will depend on experience in teaching and research as well as postgraduate qualifications in any field of Pathology. Opportunities are available for fundamental and/or applied research as well as participation in diagnostic service work in the University's Teaching Hospitals.

In addition to salary an annual pays clinical loading of $A5,007 is payable.

Further information from Professor A. Lykke c/o PO Box 1, Kensington, NSW, Australia 2033.

Salary: Senior Lecturer $A30,096 rising $A33,071; Lecturer $A22,430 rising $A28,457. Commencing salary according to qualifications and experience.

Applications close 17 December 1982.

For full information about conditions of employment and method of application, write to the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF. H1

University of Surrey

LECTURESHIPS IN DIGITAL ELECTRONICS AND TELECOMMUNICATIONS

Applications are invited for two Lectureships, one in Digital Electronics and one in Telecommunications to be held in the Department of Electronic and Electrical Engineering.

Candidates should have proven teaching and/or industrial experience in the relevant fields. The persons appointed will be expected to contribute to the teaching of their respective subjects at both undergraduate and postgraduate levels and to carry out research, there being active research groups in both fields in the Department.

Salary in the range £6,975–£13,905 (superannuation will be under USS conditions).

Further particulars may be obtained by telephoning Guildford 0483 579581 (extension 653). Applications from men and women in the form of a curriculum vitae including the names and addresses of three referees should be sent to the Registrar, University of Surrey, Guildford, Surrey GU2 5XH, by 31st January 1983. Please quote reference 1167/82. H1

University of Hong Kong

LECTURESHIPS IN MECHANICAL ENGINEERING

Applications are invited for two posts of Lecturer in Mechanical Engineering in the subject areas of (a) Applied Thermodynamics (Reference 1/83) and (b) Control Engineering. Applicants should have an honours degree and preferably a higher degree in a relevant discipline with industrial experience.

Annual salary (superannuable) is on an 11 point scale) HK$117,840 (£9,820 approx) to HK$211,080 approx). Starting salary will depend on qualifications and experience.

At current rates of tax there will not exceed 15% of gross income, housing benefits at rental at 7½% of salary, children's education allowances, leave and medical benefits are provided.

Further particulars and application forms may be obtained from the Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF, quoting reference number 1/83. Applications should be sent to the University of Hong Kong. The closing date for applications is 15 January 1983. H1

Please mention the THES when replying to job advertisements

Fellowships

ST HUGH'S COLLEGE, OXFORD

Application is invited for the following postgraduate award:

JOANNA RANDALL–MacIVER JUNIOR RESEARCH FELLOWSHIP

St Hugh's College proposes to elect to the above Fellowship, tenable from Michaelmas Term 1983, open to women graduates only. The annual value will be approximately £4,000. The subject of research shall be the fine art, music or literature of any nation, in any period.

Further particulars from the College Secretary, St Hugh's College, Oxford, to whom applications should be sent by *Friday, 7th January, 1983.*

University of Oxford
Balliol College
Oxford OX1 3BJ

VISITING FELLOWSHIP 1983–1984

The College proposes to elect to a one-year non-stipendiary Visiting Fellowship a distinguished scholar from abroad who will be spending the academic year 1983–4 in Oxford. The Fellow will be entitled to free meals and will be a full member of the Senior Common Room. He or she will be entitled to attend meetings of the Governing Body and to use all College facilities. The College hopes to be able to help with the provision of accommodation for the Fellow; financial assistance may also be offered in certain circumstances.

Further details may be obtained from the Senior Tutor. The closing date for applications is 19 January 1983. H2

University of Oxford
Lady Margaret Hall
Oxford OX2 6QA
Telephone 0865 54353

TALBOT RESEARCH FELLOWSHIP

Applications are invited for a Talbot Research Fellowship, tenable for two years from October 1983. Open to men and women graduates or any university in any branch of study who are of post-doctoral or equivalent standing.

Further particulars from the College Secretary, Lady Margaret Hall, Oxford, OX2 6QA, closing date for completed applications 24 January 1983. H2

University of Oxford
Lady Margaret Hall
Oxford OX2 6QA
Telephone 0865 54353

SUSETTE TAYLOR TRAVELLING FELLOWSHIP

Applications are invited for a Susette Taylor Travelling Fellowship, value £750, tenable for one year from October 1983. Open to women graduates of any university in any branch of study of post-doctoral standing, or the equivalent.

Further particulars from the College Secretary, closing date for applications, 8 February 1983. H2

University of Oxford
Balliol College
Oxford OX1 3BJ
in conjunction with
THE ROYAL SOCIETY

JULIAN HUXLEY JUNIOR RESEARCH FELLOWSHIP

The College in conjunction with the Royal Society offer a Julian Huxley Junior Research Fellowship in Biological Sciences (fields related to Evolution and Genetics).

Further details from Balliol College Secretary. Applications not later than 31 January 1983. H2

Personal

IMMIGRATE ADVANCES £100 to £50,000. Written terms on 21 days. Private Trust Funds. Commercial Loans. Phone 061 832 7 or 38 5418. 2000

Polytechnics

POLYTECHNIC OF THE SOUTH BANK
Borough Road, London SE1 0AA
Department of Electrical and Electronic Engineering

LECTURER(S) GRADE II (TEMPORARY)

(Ref: EB)

The Department of Electrical and Electronic Engineering has two vacancies at Lecturer, Grade II level.

Candidates should possess a good honours degree in mathematics, engineering or computer science. Preference will be given to candidates who have a postgraduate qualification or relevant industrial experience, and to those who have a specialist interest in Computer Aided Design. The post(s) will be for a period of one year with the possibility of extension.

Salary will be in the range £7,686–£11,856 per annum inclusive of London Allowance.

Starting salary will depend on age and experience.

Application forms are available from the Staffing Office. Tel: 01-928 8888 (extension 2355)

SERC CASE STUDENTSHIP

"Simulation and Optimization of Hybrid Vehicles"

SERC Case Studentship to work on "Simulation and Optimization of Hybrid Vehicles".

Candidates should hold an honours degree (upper second) in Engineering or Physics. The successful applicant will be expected to spend some time with the industrial sponsor, Cableform Limited in Manchester. Registration for a higher degree will be required.

Applicants should send C.V.s with the names of 2 referees to Dr. D. Gillies or contact him direct on 01-928 8888 extension 2311/2321.

ULSTER POLYTECHNIC
Faculty of Technology

LECTURER II/SENIOR LECTURER QUANTITY SURVEYING

Fixed term appointment until 30 September, 1984

Salary Scales:
Senior Lecturer £10,173–£11,964/£12,816
Lecturer II £6,855–£11,022

Applicants should be Chartered Quantity Surveyors, corporate members of the Institute of Quantity Surveyors and/or be holders of equivalent degree or diploma qualifications commensurate with the post. Adequate professional experience will be essential and previous teaching experience, whilst not essential would be desirable.

The Polytechnic is a direct grant institution with an independent Board of Governors. It opened in 1971, and has a student population of some 7950. It has extensive new purpose-built accommodation, including 830 residential places on the 114-acre campus overlooking the sea at Jordanstown, a pleasant and quiet residential area. There is a scheme of assistance with removal.

Further particulars and application forms which must be returned by 20 December, 1982 may be obtained by telephoning Whiteabbey (0231) 65131, Ext. 2243 or by writing to: The Establishment Officer, Ulster Polytechnic, Shore Road, Newtownabbey, Co Antrim, BT37 0QB.

Coventry (Lanchester) Polytechnic
Department of Statistics and Operational Research

TEMPORARY LECTURER GRADE II

£6,855 – £11,022

Required from 1 October 1983 to 31st August 1983 to teach applied statistics to one or more of the disciplines of Science, Engineering and Business. Applicants should possess a first degree in mathematics or statistics.

Details from: Assistant Personnel Officer, Coventry (Lanchester) Polytechnic, Coventry CV1 5FB (please enclose s.a.e.). Closing date for receipt of applications: Friday, 17th December, 1982.

An Equal Opportunity Employer H2

Oxford Polytechnic

ASSISTANT ACADEMIC SECRETARY

Required to undertake a flexible student registry function, including some staff development, to administration, equivalent and academic qualification or experience, to apply to higher education on Grade APT&C, £6,573–£8,303.

Further details and application forms from the Deputy Administrator (Personnel), Headington, Oxford OX3 0BP. H2

Faculty of Arts

HEAD OF ART AND DESIGN AND SUB DEAN OF ARTS

Salary Scale: £14679–£17490 plus £750 Faculty Allowance

Applications are invited from persons with suitable qualifications and experience for the post of Head of Art and Design and Sub Dean of Arts.

The person appointed to this new post will be expected to exercise academic leadership and administrative ability and will be responsible to the Dean of the Faculty of Arts for the management of the Art and Design Centre, fostering interdisciplinary activity and developing the outreach to the community of the six Schools of Art and Design which are the sole providers of higher education in this area in Northern Ireland.

The Polytechnic is a direct grant institution with an independent Board of Governors. It opened in 1971 and has a student population of some 7950. There is a scheme of assistance with removal.

Further particulars and application forms which must be returned by 20 December 1982 may be obtained by telephoning Whiteabbey (0231) 65131 Ext. 2243 or by writing to:

The Establishment Officer,
Ulster Polytechnic, Shore Road,
Newtownabbey, Co. Antrim BT37 0QB

Ulster Polytechnic

PAISLEY COLLEGE
A Scottish Central Institution

Department of Mechanical and Production Engineering

LECTURER

Applicants should be honours graduates, preferably with a higher degree, with postgraduate experience in either Computer Aided Design/Manufacture or in Applied Mechanics (specialising in Shell Theory, Plasticity, Creep, Finite Element Analysis or Fracture Mechanics). The appointee will be expected to make a positive contribution to teaching at undergraduate and postgraduate level and to research. There is one vacancy and the appointment will be made at a level commensurate with the experience, qualifications and expertise of the appointee.

SALARY SCALE: LECTURER 'A' – £7,956 to £12,561.

Application forms and further particulars are available from the Personnel Officer, Paisley College of Technology, High Street, Paisley PA1 2BE. Tel: 041-887 1241, Ext. 230. Informal enquiries may be made to Professor J. Anderson, Dr C. U. Chisholm or Dr G. E. Findlay.

Polytechnics continued

Nottinghamshire County Council

ASSISTANT DIRECTOR (Administration)

£16,761 x £384(3) – £17,913
Pay Award Pending

Trent Polytechnic is one of the largest Polytechnics in the United Kingdom, occupying a premier position in the City of Nottingham, together with a large site situated in a semi-rural position on the South side of the City. It has an annual budget in excess of £27,000,000 to provide a wide range of Full Time, Sandwich and Part Time Courses. It has an annual enrolment in excess of 10,000 students to its 53 Degree courses, 90 Diploma and Certificate courses and to more than 20 courses leading to qualifying examinations of professional bodies. The Polytechnic employs over 800 academic staff and approximately 1,200 administrative, clerical, technical and other ancillary staff.

For this key post, the Governing Body wishes to encourage applications from candidates drawn from industry, commerce, professional institutions, public service and higher education. Candidates should be well qualified and have had substantial relevant experience at a senior level in a major organisation. Whereas no specific emphasis of expertise is a pre-requisite, candidates with significant experience in at least one of the areas of higher education, academic administration, finance and staffing will be particularly welcome. The main duties of the post comprise essentially four elements namely:-

1. The duties of Clerk to the Governing Body;
2. The development, oversight, monitoring and control of the administrative and committee procedures of the Polytechnic, which cover the three principal functional areas of staffing, finance and academic administration;
3. Line management responsibilities for certain ancillary services;
4. The role of Assistant to the Director in the general management of the Polytechnic, together with any other duty or function assigned to him by the Director.

A statement of further particulars can be obtained from the Staffing Officer, Trent Polytechnic, Burton Street, Nottingham, NG1 4BU, and applications, addressed to The Director, should be made before the closing date of 17th December 1982.

TRENT POLYTECHNIC NOTTINGHAM

DEPARTMENT OF LEGAL STUDIES

RESEARCH ASSISTANT/ DEMONSTRATOR

(£5,355–£5,580–£5,808–£6,039)

Equal Pay and Sex Discrimination in the EEC (Ref E155)

A good honours graduate is required to examine the role of European Community Law on equal pay and sex discrimination, and their implementation in at least two member states of the EEC. The successful candidate will be expected to register for an MPhil/PhD.

A good knowledge of one European language in addition to English is essential.

Further details and form of application from the Staff Officer, Trent Polytechnic, Burton Street, Nottingham NG1 4BU. Applications to be returned as soon as possible.

TRENT POLYTECHNIC NOTTINGHAM

SHEFFIELD CITY POLYTECHNIC

DEPARTMENT OF DESIGN
LECTURER II IN INDUSTRIAL DESIGN

Applications are invited from suitably qualified 3D Designers (Dip.AD, BA(Hons.) or HNC) for this full-time post.

Candidates should preferably have both professional practice and degree level qualifications for the post which is chiefly concerned with teaching students on the Diploma / Degree in Industrial design.

Salary: £6,855–£11,022 – under current salary regulations and subject to satisfactory performance the successful candidate can normally expect subsequent progression to the Senior Lecturer scale of which the present maximum is £12,816.

Application forms and further details are available from the Personnel Officer, Sheffield City Polytechnic (Dept. THES), Hallfields House, Fitzalan Square, Sheffield S1 2BB (tel. 0742 20811, ext. 387. Completed forms should be returned by 17th January, 1983.

The Polytechnic is an 'Equal Opportunities Employer.

CITY OF BIRMINGHAM POLYTECHNIC

Faculty of Art & Design

DEPARTMENT OF FASHION AND TEXTILES

SENIOR LECTURER/ COURSE LEADER IN FASHION

Applications are invited for the above post from practising designers with appropriate academic qualifications, industrial and teaching experience to lead BA (Hons) studies in Fashion. The Department has recent CNAA course approval in Embroidery, Fashion, Printed and Woven Textiles and MA Textiles. The ability to teach Fashion Design and associated practical subjects is essential as is a thorough current knowledge of the Fashion industry as well as wide ranging industrial contacts.

Faculty of Business Studies & Law

DEPARTMENT OF BUSINESS AND MANAGEMENT STUDIES

LECTURER II/ SENIOR LECTURER IN MANAGEMENT

To join existing DMS team and contribute as appropriate to Degree, BEC and professional courses. A relevant degree and experience is essential.

DEPARTMENT OF MATHEMATICS AND STATISTICS

LECTURER II IN OPERATIONAL RESEARCH

Required to teach in Business, Accounting and related areas. Applicants should possess a good first degree strongly biased towards mathematics/economics, and further qualifications including a higher degree (OR) and/or relevant practical experience.

Faculty of Engineering & Science

DEPARTMENT OF ELECTRICAL ENGINEERING

SENIOR LECTURER IN CONTROL AND MICROELECTRONICS
SENIOR LECTURER/LECTURER II IN CONTROL AND MICROELECTRONICS

Graduates in Electrical or Electronic Engineering with relevant industrial or research experience required. The person appointed will be expected to teach Control and Microelectronic subjects to Higher Technician and degree students and to participate in the research/consultancy activities in the Department. For informal discussion please contact Head of Department on 021 356 6911 Ext. 283.

DEPARTMENT OF MECHANICAL & PRODUCTION ENGINEERING

SENIOR LECTURER IN PRODUCTION ENGINEERING (Temporary Post – One Year Full-Time)

Required graduates, or equivalent, in mechanical or production engineering with industrial and/or research experience to teach machine tool and manufacturing technology.

LECTURER II IN CONTROL ENGINEERING (2 POSTS)

The person appointed will be required to teach control theory on BSc and TEC Higher Certificate courses, with particular emphasis on computer and microcomputer control. A relevant degree and practical experience is essential.

Willingness to engage in research/consultancy work is expected.

POLYTECHNIC LIBRARY

ASSISTANT POLYTECHNIC LIBRARIAN PRINCIPAL LECTURER GRADE (READER SERVICES)

Required to join the senior management team and lead the development of Reader Services in the Polytechnic Library. The first phase of a new Main Library building is currently under construction.

SALARY SCALES:

PRINCIPAL LECTURER	– £11,931 – £13,290 (bar) £15,018
SENIOR LECTURER	– £10,173 – £11,964 (bar) £12,816
LECTURER II	– £6855 – £11,022

Further details and application forms (to be returned by 23rd December, 1982) from: The Personnel Officer, City of Birmingham Polytechnic, 'F' Block, Perry Barr, Birmingham B42 2SU (021 356 9193 Ext 215).

Colleges of Further Education

BOURNEMOUTH AND POOLE COLLEGE OF FURTHER EDUCATION

SENIOR LECTURER IN EDUCATION METHOD & PRACTICE

Specialist staff member required to play a major role in the development of educational methods and strategies within the College to meet the need for changing patterns of teaching, learning curriculum structure.

Applicants should be graduates with experience of teacher training and should be fully conversant with modern educational concepts for post-16 education.

Salary: £10,173 – £11,964 (Bar) – £12,816 p.a.

Further particulars and application forms available from Principal's Secretary, North Road, Parkstone, Poole, Dorset. Tel: 0202. 747600. Forms to be returned within 2 weeks of this advertisement.

Colleges of Technology

SURREY COUNTY COUNCIL

NORTH EAST SURREY COLLEGE OF TECHNOLOGY
Reigate Road, Ewell, Epsom, Surrey KT17 3DS

Applications are invited for the following post to be filled as soon as possible:

Head of Department of Construction Studies (Grade VI Department)

The successful applicant will possess a good honours degree of a British University or an equivalent qualification and will have had substantial experience of teaching in further education.
Salary Scale:
In accordance with the latest Burnham Scale for teachers in establishments of Further Education.
Plus £213 p.a. London Fringe Allowance.
Generous relocation expenses in approved cases.
A stamped addressed envelope please for further particulars and application form from the Vice-Principal.

Colleges of Higher Education

TASMANIAN COLLEGE OF ADVANCED EDUCATION

Head of School of Art

(Ref. No. 13482)

The Tasmanian College of Advanced Education is a multidisciplinary college situated in Launceston (pop. 84,000 in the Greater Launceston area) on the Tamar river. Degree or Diploma level studies are offered in Administration, Applied Science, Art, Education, Engineering, Environmental Design, General Studies, Music, Nursing and Social Work. Current enrolments are in excess of 2,100 and this is expected to rise to 2,500 by 1984.

Applications are invited for the position of Head of the School of Art. The School currently offers teaching programmes in 2-D and 3-D Studies, Fibres and Fabrics, Ceramics, Printmaking, Jewellery and Silversmithing. A new programme in Applied Design (Wood) is currently being developed and will be initiated, with strong State Government support, in 1983.

The successful applicant should desirably have experience in arts administration, and possess relevant tertiary qualifications, teaching and professional experience. It is envisaged that the appointee will have some teaching responsibilities in one of the following areas: Drawing, Applied Design or Basic Design Studies.

Level of appointment and salary: Principal Lecturer $A39,666 per annum; Senior Lecturer I $A32,936 per annum to $A36,077 per annum.

Enquiries of an academic/professional nature should be directed to the Principal, Dr. C. A. O'Flaherty (telephone (003) 26 0531), in the College.

In the academic administrative structure of the College, Schools are grouped into Divisions. Heads of Divisions are normally appointed from the Heads of Schools and the appointee to this position will therefore be eligible for such higher appointment.

Applications quoting the above reference number, and including the names and addresses of three referees should be forwarded to: The Registrar, Tasmanian College of Advanced Education; P.O. Box 1214, Launceston, Tas. 7250, Australia. A copy should also be sent to the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF.

Closing date: 4 January, 1983.

Joint post of

Deputy Director (Academic) and Head of Bishop Otter College

(Vice Principal Grade, Burnham FE, Group 7, £18,255 pa)

Applications are invited from communicant members of the Church of England and of Churches in communion with it for the above post.

Application forms and details from Director's Secretary, The Dome, Upper Bognor Road, Bognor Regis, West Sussex PO21 1HR (Tel: 0243-865581).
Closing date: 17th December, 1982.

(Incorporating Bishop Otter College, Chichester and Bognor Regis College)

West Sussex Institute of Higher Education

Colleges of Higher Education continued

TASMANIAN COLLEGE OF ADVANCED EDUCATION
SCHOOL OF NURSING

The Tasmanian College of Advanced Education is a multidisciplinary college situated in Launceston (pop. 84,000 in the Greater Launceston area) on the Tamar river. Degree or Diploma level studies are offered in Administration, Applied Science, Art, Education, Engineering, Environmental Design, General Studies, Music, Nursing and Social Work. Current enrolments are in excess of 2,100 and this is expected to rise to 2,500 by 1984.

HEAD OF SCHOOL
(Ref. No. 13882)

Applications are invited for the position of Head of the recently established School of Nursing to assume responsibility of the position upon the retirement of the current Head, Dr. Bessie Baskin. The School currently offers a Degree programme for experienced registered nurses and a Diploma programme for Basic Nursing. Both of these programmes commenced in 1982.

The Head of School is responsible for the academic development and continual operations of these courses within the School.

The successful applicant will be a registered general nurse with appropriate professional experience at senior level and postgraduate academic qualifications. Experience in teaching and administration of a tertiary nursing programme is required.

Salary: Principal Lecturer I: $A39,666 per annum.

LECTURER/SENIOR LECTURER
(Ref. No. 13982)

The successful applicant will be required to undertake appropriate teaching duties, assist the Head of School in the continuing development of the Degree programme for experienced nurses, and the Diploma programme for Basic Nursing, which commenced in 1982.

The appointee will be a registered general nurse, and desirably will also have appropriate postgraduate academic qualifications and teaching experience. Applicants should indicate the specialities in which they can teach, in addition to general nursing.

Salary: Lecturer II: $A22,430–$A25,648 per annum; Lecturer I: $A26,521–$A29,467 per annum; Senior Lecturer II: $A30,096–$A32,226 per annum.

Enquiries of an academic-professional nature should be directed to the Head of the Division of Community and Health Studies, Dr. Ben Gelin (telephone (003) 28 0254), in the College.

Further information is available from the Registrar. Applications, quoting the appropriate reference number, and including full personal and professional details and the names and addresses of three referees, should be forwarded to: The Registrar, Tasmanian College of Advanced Education, P.O. Box 1214, Launceston, Tas. 7250, Australia. A copy should also be sent to the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF.

Closing date: 4 January, 1983.

DEPARTMENT OF BUSINESS AND MANAGEMENT STUDIES

LECTURER II/SENIOR LECTURER
In
PUBLIC SECTOR ACCOUNTANCY AND PUBLIC ADMINISTRATION

To teach on CIPFA, BEC and ICSA courses. Applicants should be qualified CIPFA members and possess a degree in Public Administration or an allied area.

The post will be available from 1st May, 1983.

Salary on Burnham FE scale.

For further details and application form please telephone 01-566 8741, Ext. 223 or write Asst. Principal (Academic Staff) WLIHE, Lancaster House, Borough Road, ISLEWORTH, Middx. TW7 5DU.

Closing date for receipt of completed forms 17th December, 1982.

Luton College of Higher Education
Park Square, Luton, Beds

Department of Engineering Technology

SENIOR LECTURERS (2 posts) in ELECTRONIC & COMPUTER ENGINEERING

Required 1st January 1983 or as soon as possible thereafter. Preference will be given to graduates with appropriate industrial and/or research experience.

Salary: £10,173–£12,816. Closing date 16th December 1982.

Details and application form from Assistant Director (Staff) (0582) 34111 ext 7407.

Bedfordshire Education Service

Royal Northern College of Music
1983 ENTRY

Applications are invited for entry in September 1983 to the College by 15th February 1983 except for Choral and Percussion applicants for whom it is 31st January 1983. Full time main programme or auditions, including those for competitive scholarships, will take place in February to April 1983. For those requiring an earlier decision, some auditions will be held in January 1983 for which immediate application is necessary.

Details and application forms are available from Secretary for Admissions, Royal Northern College of Music, 124 Oxford Road, Manchester M13 9RD (061-273 4283).

DUNFERMLINE COLLEGE OF PHYSICAL EDUCATION

POST OF PRINCIPAL

Applications are invited for the post of Principal of Dunfermline College of Physical Education.

Salary £19,500 per annum.

The successful applicant will be expected to assume duty by 1 September, 1983.

Further information and forms of application for the post may be obtained from the College Secretary, Dunfermline College of Physical Education, Cramond Road North, Edinburgh EH4 6JD, to whom completed applications should be returned not later than 10 January, 1983.

Research & Studentships

University of Dundee
Department of Psychology
Department of Electrical Engineering and Electronics

SPASTICS SOCIETY RESEARCH FELLOWSHIP

Applications are sought for a Spastics Society financed one-year project to develop a microcomputer-based system to facilitate typewritten communication by severely handicapped people exploiting linguistic redundancy. The applicant should be qualified at first degree level at least. He or she should have a good knowledge of one or more programming languages and some familiarity with list-processing techniques. Knowledge of microcomputers and some understanding of the principles of experimental design would be an advantage. The successful applicant will start in January/February 1983 at a salary of up to £7,293 per annum (depending on qualifications and experience).

Further particulars can be obtained from Mr K H Cocker, Assistant Personnel Officer, The University, Dundee, DD1 4HN to whom written applications, naming three referees should also be sent. The closing date for applications is 24 December 1982. Please quote Ref: ES7756/82 H10

Christ Church Oxford

SCHOOL/TEACHER STUDENTSHIP

Christ Church proposes to elect a Schoolteacher Student to be in residence in Hilary Term 1984. Candidates must have some experience of Sixth Form teaching. Further particulars may be obtained from the Very Reverend the Dean, Christ Church, Oxford. The closing date for applications is 28 January 1983. H10

University of Salford
Department of Geography

RESEARCH ASSISTANT

Applications are invited for the above post, funded by CAMPUS, to work on a socio-geographical study of Salford, using 1981 Census data. Applicants should possess a good honours degree and preferably postgraduate research experience, and should have interests in the computer analysis of Census data. The project is of 2 year's duration and will commence early in 1983. Salary range £6375 – £6800 per annum.

Application forms obtainable from the Registrar, University of Salford, Salford, M5 4WT (Tel: 061-736 5843 ext 215), to whom completed applications should be returned by 17th December 1982, quoting reference number 6/83. Informal enquiries may be addressed to Dr A Rogers (0204 28841). H10

Coleg Harlech Residential College for Adult Education

SENIOR ADMINISTRATIVE ASSISTANT

Applications are invited for the above post from graduates or professionally qualified candidates. Duties of the post will involve assistance in all aspects of the administration of the College, with particular emphasis upon personnel and financial control systems. Previous experience desirable but not essential. Knowledge of Welsh an advantage.

Initial salary from the first full day of the post in scale, £8,550 – £11,103.

Applications by 20 December 1982 to Registrar, Coleg Harlech, Harlech, Gwynedd LL46 2RD, from whom further particulars can be obtained. H12

Polytechnics continued

Middlesex Polytechnic

Part-time Lecture-ships in Law

Applications are invited for part-time lecturerships in law to teach in the areas of Commercial Law and Consumer Law.

Letters of application, accompanied by a curriculum vitae to:

Dr A. Hunt
Head of School of Law
Middlesex Polytechnic
The Burroughs
London NW4 4BT

Librarians

Gloucestershire College of Arts & Technology

PITTVILLE CAMPUS – ASSISTANT LIBRARIAN POST NO. 4697F002

Re-Advertisement, previous applicants need not reapply.

Applications are invited for the above post. Duties to be allocated by the Librarian, to include responsibility for certain specific areas of the library's work.

Salary on the A.P.T. Grade at the salary scale for Assistant Librarians (£5,973 – £8,931) according to age, qualifications and experience.

Further details and application forms available from Personnel Office, Gloucestershire College of Arts & Technology, Pittville Campus, Pittville Lawn, Cheltenham, GL52 2BB. Closing date 10th January, 1983. H11

The University of Leeds
Office of The Bursar

ADMINISTRATIVE ASSISTANT

Applications are invited from young graduates with similar qualifications who are hoping to be trained for a worthwhile career in financial and general administration for three years at which time the Administrative Assistant available for promotion. The successful candidates will have the opportunity to train for and experience in the Office of the Bursar, details of all the business affairs of the University.

Salary on the A.P.T. Grade at the salary scale for Administrative Assistants (£5,973 – £8,931) according to age, qualifications and experience.

Further particulars may be obtained from the Registrary, The University of Leeds, LS2 9JT, quoting Reference number 1/1/83. Closing date for applications is January 7th, 1983. H11

Colleges and Departments of Art

BOURNEMOUTH AND POOLE COLLEGE OF ART AND DESIGN
Royal London House, Lansdowne, Bournemouth
Tel: 0202 26772

The Department of Spatial Design has a vacancy for a

PRINCIPAL LECTURER

Applications are invited from suitably qualified and experienced candidates who will be expected to contribute fully as the Course Leader throughout the Department which offers DATEC Diploma and DATEC Higher Diploma Course in Spatial Design, with specialisations in Interior Design, Exhibition Design and Scenic Design for Television.

Salary: Principal Lecturer – Burnham Technical Scale £11,931–£13,290.

Commencing salary according to qualifications and experience.

Further details and application forms returnable within two weeks from the date of the advertisement, are available from the Vice-Principal.

Administration

Department of Education and Science

HM Inspectors of Schools

Further and Higher Education
Business and Management Studies
Computer Education

Applications are invited from men and women, preferably aged between 35 and 45, for appointment as HM Inspectors. HMIs provide a service of professional advice at the Department of Education and Science and normally carry out a general as well as a specialist assignment. Their work primarily involves inspecting and advising educational institutions, but also includes consulting with local education authorities and contributing to in-service training.

Vacancies exist for inspectors specialising in: Business and Management Studies; Mathematics and Computing Studies.

Applicants must have had considerable experience and responsibility in their specialist area and have an active interest in the applications to education, industry and commerce. Appropriate academic qualifications, teaching and industrial/professional experience essential.

Starting salary, within the range of £13,846–£19,934 (higher in London). Higher posts are filled by promotion.

Application forms (to be returned by 14th January, 1983) and further information may be obtained from Miss J. D. Church, Department of Education and Science, Room 16/17, Elizabeth House, 39 York Road, London SE1 7PH, telephone 01-928 9222, extensions 2237 or 2786. Please quote 7/82.

The University of Oxford

ACCOMMODATION OFFICER

The Accommodation Officer, with supporting staff, (1) acts as secretary to the University Accommodation Committee and related sub-committees, (2) administers, under the committee's direction, the University's residential accommodation for graduate students and for members of the University, and applies for accommodation and (4) maintains registers of accommodation. Salary on the Administrative Grade 1: £10,670 – £13,305 per annum.

Applications giving age, qualifications, experience and the names and addresses of two referees should be sent to the Secretary of the Chest of Colleges, Oxford, Wellington Square, Oxford OX1 2JD by Monday, 13 December 1982. H11

LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

ADMINISTRATIVE ASSISTANT

Applications are invited from graduates for the post of Administrative Assistant in the Department of Physical Education and Sports Science for three years from the date of appointment. Duties will be concerned with the day-to-day administration of all aspects of the work in this important department, including contact with both staff and students.

Salary within scale £5,550–£11,103; the appointment will be made within the lower half of the scale. Postal requests for information and application forms to Paul Johnson, Establishment Officer, tel. 0509 PS.

Loughborough *Leicestershire*

Industry and Commerce

EXPERIENCED GRADUATES
London based
c. £11,000

Are you 24–30, with some exposure to life since graduation to the extent that you don't want to be typecast by your degree? Is that degree a first or 2(i)? Are your interests in management and communication rather than technical areas?

If the answer is yes to all of these, we are handling at least one, possibly two, openings which could suit you, with international or quoted UK groups. There is a chance of a European tour or substantial overseas travel in one case.

Demonstrate clearly in writing (plus typescript o.k., if possible) how you meet our criteria and we'll give you a quick decision and, where possible, a formal job description.

Please reply to John Courtis at John Courtis & Partners, 104/112 Marylebone Lane, London W1M 6PU. Quote reference 7/10/TES. Early reply desirable.

Courses

Brunel University
Department of Government

MA IN PUBLIC AND SOCIAL ADMINISTRATION

The Department of Government offers places for a MASTER'S COURSE IN PUBLIC AND SOCIAL ADMINISTRATION.

The course is offered both as a one year full time and a two year part-time course involving attendance of one day a week.

Options in education, health, housing, the personal social services, social security and the history of social policy are available on this course. The education option includes the study of the development of the future organisation of all levels of the service, analysis of its aims, analysis of the main policies. A newly developed option is the history of social policy which considers the development of social policy in Britain between the 1830's and 1930's, including the relationship of the political environment and the theoretical models of social policy and administration. Emphasis is placed on the use of contemporary source material and Parliamentary papers.

The course has SSRC Quota Status and is recognised by the DES as a course of training for serving teachers.

Application forms from MAPA Department of Government, Brunel University, Uxbridge, Middlesex, including a 9½ x 6½ s.a.e.

Closing date for applications – 31 December 1982. H121

University of London
Department of Extra-Mural Studies

DIPLOMA IN ADULT AND CONTINUING EDUCATION

Applications are invited for a two-year part-time course (day release) for those professionally engaged in the education of adults. Successful students will be prepared for the Special Course of Advanced Study.

For particulars of the next entry, starting in October 1983, please write to: The Lecturer in Adult Education, Department of Extra-Mural Studies, University of London, 26B Torrington Square, London WC1.

Closing date for applications 15 February 1983.

Particulars of Short Courses in Adult and Continuing Education are issued in the Spring and Summer terms. Both are also obtainable from the above address. H121

Overseas

University of Natal
Durban, South Africa

Department of Civil Engineering

Applications are invited from suitably qualified persons, regardless of age, race, colour or nationality, for appointment to the post of

PROFESSOR IN CIVIL ENGINEERING

It would be an advantage for applicants to have a proven reputation in the field of soil mechanics and foundation engineering but expertise in other fields within Civil Engineering would be considered. The successful applicant will be required to be in possession of appropriate post-graduate qualifications.

It is desirable that the appointee be registered, or eligible to be registered, as a Professional Engineer.

The successful applicant will be eligible for superannuation benefits.

The salary scale attached to the post is: R32 598 – R36 198 per annum.

The commencing salary will be determined according to the qualifications and/or experience of the successful applicant. In addition to the basic salary of the scale mentioned above, a cost of living allowance is payable.

Application forms, further particulars of the post and conditions of service, including group insurance, provident fund, housing scheme, study leave, medical scheme, passages on first appointment, South African Income Tax, etc., may be obtained from the Registrary, South African Universities House, 474 Hilda Street, Hatfield, Pretoria 0083, South Africa; The Registrar, University of Natal, Durban, 4001, South Africa; The Registrar, University of Natal, P.O. Box 375, Pietermaritzburg 3200, South Africa; The Registrar, University of Natal, P.O. Box 1334, Salisbury, Rhodesia; The Registrar, University of Natal, P.O. Box 1090, Lusaka, Zambia; The Registrar, University of Natal, P.O. Box 1625, Lilongwe, Malawi; The Registrar, University of Natal, P.O. Box 1280, Maseru, Lesotho; The Registrar, University of Natal, P.O. Box 1090, Mbabane, Swaziland; The Registrar, University of Natal, P.O. Box 1090, Gaborone, Botswana; The Registrar, University of Natal, P.O. Box 1090, Windhoek, South West Africa/Namibia; The Registrar, University of Natal, P.O. Box 1090, Salisbury, Rhodesia; The Registrar, University of Natal, P.O. Box 1090, Lusaka, Zambia; The Registrar, University of Natal, P.O. Box 1090, Lilongwe, Malawi; The Registrar, University of Natal, P.O. Box 1090

Don's diary

Sunday

Arrive pm at Newcastle upon Tyne after swift but humpy train journey from London. Impossible to read for long, so I spend an hour of the trip queuing at the buffet as a diversion. Keith Harris, librarian of Newcastle Polytechnic meets me and drives us to his farmhouse home. A rural delight. Hard to imagine we are near an industrial city.

Monday

Visit Newcastle Polytechnic library to discuss role of subject librarians as the interface between the library and academic programmes. Their role at Newcastle has been developed to the ultimate through subject division of the collection on different floors. The library is most dynamic and has achieved significant research funding. Wish we had the same sort of funding available in Australia, although I am informed it is harder to achieve now. The British Library as a major funding agency has certainly set a pace. Inspect some of the polytechnic library's travelling workshop audiovisual subject programmes produced from the research funding. They are selling well overseas, but marketing is always a problem. I sympathize, we have the same problems with our productions. Offer to help with marketing in Australia. Discuss implications for library automation cooperatives of move to in-house minicomputer based systems.

Pay short visit to Newcastle University. Impressive new building. It is odd how many new academic library buildings there are in the UK. Thank goodness the Atkinson Report and its suggestion of steady-state libraries has not been applied literally, as it has been in Australia. We have experienced an almost complete freeze on buildings for some time, with increasingly difficult consequences. One up for the Poms. Seems to be good working relationship between the poly and university library. A relationship of equals, the poly supports its library well.

Tuesday

Arrive Sheffield. Greeted by David Lewis, polytechnic librarian, recently our guest in Australia. His library must be the ultimate in public-transport accessibility. It is sandwiched between the train and bus stations. We clamber over bodies to enter the library. Students everywhere. I have never seen libraries so packed. Cuts in universities have not helped and everyone is worried about library resource, staffing and accommodation implications of so many students. There is also more emphasis on project work, possibly as teaching staffing levels are restricted. It all adds up to more pressure on the libraries and their subject librarians. We normally run out of study-accommodation at the end of the academic year. Sheffield is facing the problem at the beginning. After discussions about subject librarians, automation and staff development it is nice to meet again Jack Earis, the poly's assistant principal at a pub near David's house in the evening. Although it is Tuesday the pub is full. Where's the recession? Jack has a rare and perceptive sense of humour, one of the few Scots I have found with one. Discussion becomes serious as it turns to implications of imminent departure of Dr Tolley, Sheffield's principal. Sheffield City Polytechnic is clearly his monument.

Wednesday

Sheffield has several sites one of which, Wentworth, rates a mention in *The Guiness Book of Records* as the longest house in UK. All sites are very attractive, but it is expensive to maintain good library services on so many sites. Australian amalgamated colleges are just beginning to find this. Discuss problems of communications and development of corporate identity among scattered staff. There is no simple answer. After site visits a short drive to Huddersfield Polytechnic. Long discussion with Winwick Price, the librarian, about subject librarians. A difficulty that arises in many polytechnics is that caused by professional librarians being on Burnham academic scales in some cases, in other cases not. Unions seem to be a problem in some too.

Huddersfield is another example of the improvements in library accommodation. It is an architect's building however with the librarian as usual having to cope with design and structural inanities.

On to Leeds Polytechnic where the building situation is not so good. Despite this, and a lower level of automation than in most academic libraries, the librarian, John Flint, and his staff are providing a dedicated user-responsive service, central to which are the subject librarians. They work very closely with teaching staff in relating resources to teaching programmes. Indispensable, one academic tells me.

Thursday

Attend annual short conference of Committee of Polytechnic Librarians at Bowness-on-Windermere. Manage to interview the few I have not visited on the role of their subject librarians, automation, and staff development. Staff development is a real issue as job-mobility becomes difficult in UK and Australia. International exchanges offer one way. Conference topic is the NAB, National Advisory Body Local Authority for Higher Education. Speakers include John Bevan, secretary of the NAB and Gerry Fowler, director North East London Polytechnic. Both excellent, but different, speakers. Fowler is a former junior minister of state for education, and a master of anecdote and repartee. Very much the politician . . . He comments that television's *Yes, Minister* is close to the truth. I must watch more carefully when it is shown again at home.

Friday

Visit to Preston Polytechnic. A good note to end my study tour. The new library is most attractive but more importantly *works*. Ray Edgar, the librarian was involved right from the beginning in its planning. It shows in attention to detail and adequate space. Preston Poly has a library that will serve it well for years to come, and will become central as the campus develops.

Interesting to hear how changes of a political nature can impinge on the polys because of their umbilical link with local authorities. At least we do not have that problem in Australia.

Saturday

Train in London for the first leg of flight home via the United States and Canada. Another swift journey. Just as impossible to read for long. Why are trains in France and Switzerland smoother? I cannot even use queuing at the book shops for diversion. There isn't one. No staff. Apparently because of union problems. Just like home.

Alan Bundy

The author is chief librarian of the Footscray Institute of Technology, Melbourne, Australia.

Carolling for Christmas

Bernard Crick

Christmas is nearly on us again, so something *volkisch und festlich* – like Shakespeare, all quotations. I love ballads. So this is going to be an easy run this month, not the familiar trot of a hobby horse, only the canter of an enthusiasm. If it were one book on my desert island or in room 101 (besides Shakespeare and the King James *Bible*), it would be Bishop Percy's *Reliques* or one of the modern collections of the border ballads. Three other books are always on the beside shelf, for when one no longer cares about "trying to catch up" with one's field or irritably lets the disappointing novel remain on the floor after the fingers and eyes relaxed; Geoffrey Grigson's *Faber Book of Popular Verse*, James Reeve's *The Idiom of the People* (Heinemann) and V. de Sola Pinto and A. E. Rodway's *The Common Muse* (Penguin).

Pinto and Rodway print the Jacobean, *The Old and New Courtier*. It always moves me, though fellow socialists will snort at its gross paternalism.

An old song made by an old aged Pate,
Of an old worshipful gentleman, had a wealthy estate,
That kept an old house at a bountiful rate,
And an old Porter to relieve poor people at his gate,
Like an old Courtier of the Queen's,
And the Queen's old Courtier.
And things were especially good at the Winter Feast.
With an old fashion, when Christmas was come,
To call in all his old neighbors with a Bagpie or a Drum
And good cheer enough to furnish out every old room,
And Beer and Ale would make a cat to speak, and a wise man dumb
Like an old Courtier of the Queen's etc.
But, alas, "to his son and heir his lands he assign'd", always a risk.
With a new flourishing Gallant, who is newly come to his land,
Who keeps a brace of painted Creatures at his own command,
And can take up readily a thousand pounds on his new Bond.
And drink in a new Tavern, till he can neither go nor stand,
Like a new Courtier of the King's, and the King's new Courtier.

He drinks in a "*new* tavern", note. Well he spends all his money on clothes for his wife – "seventeen dressings of other women's hair, on a *French* cook "to devise Cickshaws and toys", and has a "new study full of Pamphlets and playes". And Christmas time is very different.

With a new fashion when Christmas was drawing on,
Upon a new journey they all to London must be gon,
Good old English hospitality, O then it did not fail!
Thus sitting at the table wide, with Mayor & Aldermen
Were fit to give law to the city; eat as much as ten.
The hungry poor entr'd the hall, to eat good beef & ale.
Good English hospitality, O then it did not fail!

He doesn't even bother to mention the typically inhospitable corporations: the irony was obvious.

This ballad form had a long life. There's even a Nottingham version of it "A New Song, call'd Red Wig" which tells us about "little Charley" who "a wandering boy was he" – but now "he's grown so great a man that an overseer he be", in the romantic old English days when there were factories in Nottingham. The chorus is:

You poor folks of Nottingham I pray you draw near,
And the tricks of little Charley you quickly shall hear.

The form, indeed, is a common one. So to make a scholarly point, the form could even become divorced of the "old/new" and "poverty/riches" content. Kipling cribbed, whether consciously or not, the form and the metre for his sardonic "The Young British Soldier", who receives the final advice:

When you're wounded and left in Afghanistan's plains
And the women come out to cut up what remains,
Jest roll to your rifle and blow out your brains
An' go to your Gawd like a soldier
Go, go, go like a soldier
So-oldier of the Queen.

Yet even that is getting too political for the season. So let me turn back to "The Fine Old English Gentleman" in the version of the ever popular author of *The Christmas Carol*, verses one and eight.

I'll sing you a new ballad and I'll warrant it first rate,
Of the days of that old gentleman who had that old estate;
When they spent the public money at a bountiful old rate
On ev'ry mistress, pimp, and scamp, at ev'ry noble gate,
In the fine old English Tory times:
Soon may they come again!

The bright old day now downs again; the cry runs through the land,
In England there shall be dear bread – in Ireland sword and brand;
And poverty and ignorance shall swell the rich and grand,
So rally round the rulers with the gentle from hand,
Of the fine old English Tory days;
Hail to the comin time!

Who says that hist. Eng. Lit. and Pol. don't make a good combination?

How should auditors be audited?

The recent disagreement between the National Union of Teachers in Further and Higher Education and the Audit Inspectorate should not be allowed to confuse one fundamental issue – that efficiency studies should themselves be efficient. The important and necessary political debate should begin from a clear understanding of what is possible in a test of "value for money" in further or higher education.

What, if any, are the reasonable ways of trying to assess educational efficiency? Many, if not all, of the most important outcomes of education are unquantifiable, perhaps even unidentifiable within timescales shorter than a generation. The development of individual potential, the pursuit of knowledge and learning for their own sake, are beyond price. But they do have a cost. The assessment of value in education is necessarily subjective, but this subjective judgment may be more, or less, well informed. We believe it will be a better judgment if it is better informed. This means measuring what can reasonably be measured, not to lead, but to clear the way for a balanced judgment.

What is it reasonable to measure? The Audit Inspectorate report is, we understand, still in draft, so that auditors themselves are open to persuasion on this question. We believe it is reasonable to measure, for example, student-staff ratios as most if not all higher education institutions do. But the first draft of the auditors' report suggested automatic measurement and analysis of *actual* hours of attendance by students and staff. This is unreasonable even in the auditors' own terms.

The SSR is most useful as a device for monitoring the current deployment of teaching staff. By measuring the distribution of staff effort between different student groups it offers a useful tool for pinpointing present weaknesses and for achieving better staffing arrangements in the future. In non-university higher education the most widespread form of SSR analysis also provides other useful indicators of performance, captured in the formula:

$$\text{SSR} = \frac{\text{average class size} \times \text{average lecture hours}}{\text{average student hours}}$$

The Further Education Management Information System (FEMIS), developed at the Further Education Staff College, offers an inexpensive and reliable way of calculating SSRs in this way using a microcomputer.

It is a mistake to regard the SSR as a measure of efficiency. The SSR relates staff inputs to students enrolled – not to learning outcomes – the quality of education provided, and the students' response to the learning opportunities available. In different contexts there may be different measures which help to form a judgment about quality. Such measures might include, for example, student attendance rates, retention (or drop-out) rates and examination pass rates. Any judgment of value for money should start from a *combination* of several such indicators. Quantitative measures should, however, be merely the starting-point, and not a substitute, for a qualitative judgment. No *one* quantitative measure can serve even as an adequate starting point.

Any measure should itself give value for money – the information gained must be worth the effort of collecting and analysing the data. Excessive reliance on actual attendance data as revealed by class registers fails this test. For example, it is in principle possible to collect enough data to analyse SSRs using actual hours of attendance, rather than planned hours. But this does not add significantly to the information available from planned SSRs, coupled with actual attendance rates, which are much easier to determine. Audit investigations should have outcomes which justify their cost. Efficiency studies are indeed possible – but they must themselves be efficient.

Rob Cuthbert and Derek Birch

Rob Cuthbert is staff tutor, and Derek Birch is deputy director, at the Further Education Staff College, Coombe Lodge.

LETTERS TO THE EDITOR

The wasteful system of book reviewing

Sir, – We have received recently a catalog of a review that appeared in one of the major historical journals. Our pleasure at its favourable tones was unexpected by the fact that the review appeared four years after our book was published; we are doubtful this might be used to ventilate this whole matter of book reviewing, especially as it affects the humanities and social sciences. Our own particular publishing concerns are with history, archaeology, literature, politics and international relations, and of course, it may be that the situation in other subject areas is different, but better.

We are increasingly concerned that reviews of books may be less and less valued and we are wondering whether the dissemination of review copies of necessarily expensive books is really worth the cost involved. One of the practical problems that inhibits a proper investigation of the matter is that many journals are extremely lax in sending cuttings of reviews to the publishers of the books concerned. This means that it is virtually impossible to keep a record of reviews that have appeared. The few journals that are assiduous in sending cuttings are shining examples to the rest.

I does seem to be the case that reviews are appearing later and later after the publication dates of the books. It would be interesting to hear from review editors whether this chimes with their own experience and to invite them to tell us why this is so. It may of course be the result of misplaced kindness: that is, that a review editor accumulates a pile of books that really hardly merit review but, because reviewers like to sent (and because reviewers like to have free books) the review editor feels really will have to be given space. It may well be, therefore, that the review columns of many journals are far too extensive, but are still unable to cope with the number of titles that are submitted. As one-time publishers of journals, we know only too well that there is another side to this question, namely that publishers' promotion departments are often wildly optimistic in the journals they select for review. We were quite accustomed to receiving books on subjects which by no stretch of the imagination could be considered as falling within the scope of the journal but they had been sent out, with more enthusiasm than sense, in order to demonstrate, perhaps to the author, the publisher's vigour in the promotion of his book.

Some years ago the press carried out a simple survey among colleagues in appropriate departments in this university to find out what they used most as a means to discover books published in their field. It seemed to be that reviews were used as a kind of safety net, in case titles had been missed through other sources. Is this still the case? Does it matter that reviews appear very late and quite possibly, now, after the book has been remaindered? Should publishers still send out review copies, and if so under what restrictions?

We believe that these questions ought now to be explored, and the views of readers, review editors and publishers would all be worth having and might lead us to a more sensible, more useful and less wasteful system.

Yours faithfully,
PETER L. BOULTON,
Secretary to the Press,
Leicester University Press,
Leicester.

Staff appointments

Sir, – Mr P. F. Waters (*THES*, November 19) starts a number of lively hares; I would like to chase but in his final paragraph.

It would do wonders for the self-confidence of university administrators if all the senior posts in the field were filled by candidates with appropriate experience in universities of the open competition. This is, however, an imperfect world and the Association of University Teachers' administrative staff committee, after discussions at one or two annual meetings of representatives of the administrative staff from local associations, has attempted to offer a little guidance. An AUT policy document on training and career development for administrators published in July contained the following paragraph:

"The association takes the view that, save in exceptional circumstances, vacant posts in the senior grades should be advertised through the national press and through an inter-university bulletin in the university system as a whole, and that the best candidate sought in open competition between those with the appropriate experience in university administration. The association also believes that selection committees for the appointment of administrative staff should be constituted so as to ensure that at least two of their members are experienced senior serving university administrators. Universities take great care when making academic appointments, to ensure that the selection panels include those who are well versed in the specialist field to which the appointment relates. Unfortunately, certain universities still make appointments to administrative posts without taking the same precaution in regard to the membership of the selection committees for such posts."

If there have been doubts about the procedures leading to an appointment and if the AUT members in the institution concerned have asked the national AUT to intervene, we regard strongly for the justice and common sense of our policy on this. We would be willing to do so again.

Yours sincerely,
ANN McCLURKIN,
Chairman,
Administrative Staff Committee,
Association of University Administrators.

Narrow puritanism

Sir, – What a pity that your correspondent could only find space for Mr Roy Shaw's contribution to the controversy on "adult education and the arts" (*THES*, November 12) – the most dull and depressing message that Shaw brought was in sharp contrast to the practical experiences of other speakers and, while there are some criticisms of the organization and content of the conference that deserve criticism, there were many signs of the day more optimistic than the narrow meritocratic puritanism of a bygone age represented by Shaw.

Yours sincerely,
MALCOLM BARRY,
Newman College,
University of London.

NAB exercise

Sir, – As a "soft target" and one who is likely to be an early casualty of the National Advisory Body exercise may I make a brief comment through your columns?

Gradually the full destructiveness of the NAB exercise is becoming apparent. In the name of local autonomy 380 colleges throughout the country are being asked to define their priorities for higher education. These discussions are being conducted by academic boards unfamiliar with the politics of educational contraction. Neither academic boards nor their consultative committees are independent of the entrenched hierarchy of departments and course interests, and in these circumstances it is not surprising that some directorates are endeavouring to push through their "solutions" as swiftly as possible. In the politics of education-al decline ultimately it will be the powerful who, irrespective of educational merit, will emerge strengthened. The manner in which the NAB exercise has been set up offers a charter for the ambitious and the ruthless to benefit from the closure of their colleagues courses. Perhaps we should not be surprised at this morality, after all it is the current political orthodoxy.

The NAB is providing a field day for local imitators of the secretary of state each eager to draw the spurious distinction between productive and non-productive graduates, or, useful and non-useful knowledge. A noble planning exercise is being sacrificed for political expediency.

Yours faithfully,
JOHN ORAM,
Principal lecturer,
Buckinghamshire College of Higher Education,
Chalfont St St Giles,
Bucks.

Industrial links pay off

Sir, – The "warning" to the new universities issued by the Secretary of State for Employment (*THES*, November 26) must not be allowed to pass without comment. Mr Tebbit seems to think that academic and technical excellence are mutually exclusive, that the technological universities have shown this is not the case. The University of Surrey has been successful in forging strong links with industry by appointing leading technologists from industrial establishments as visiting professors, by emphasizing the industrial relevance of academic activities in its research and degree courses and by pioneering and maintaining, despite the financial cuts it has suffered, the structure of the "thick" sandwich course which provides the great majority of its undergraduates with a full year's industrial experience.

Industry and commerce have recognized this by awarding research contracts to the university, by endowing academic posts and by offering employment to Surrey graduates. Thus 44 per cent of the students who obtained their first degrees in 1981 entered permanent employment in business or commerce within a few weeks of graduating. The percentage of graduates obtaining employment is declining, but this is merely a reflection of the general state of the economy and the rising rate of unemployment.

Yours sincerely,
Professor O. PICK,
University of Surrey.

Another recent charter

Sir, – The opening sentence under "Buckingham likely to be granted a charter" (*THES*, November 19) reads "The first university charter to be granted since the 1960s is likely to be awarded to the independent University College at Buckingham before the end of the year." May I, on behalf of Heythrop College, University of London, add an observation.

Although it is appreciated that no exact parallel can be drawn with the independent University College at Buckingham – nor indeed with Goldsmiths' College, mentioned later in the same article – nevertheless it remains a fact that on May 14 1971 Heythrop College (which had removed from Oxfordshire to London in 1970) was granted a Royal Charter constituting Heythrop College a University College within Greater London, as immediate preliminary to Heythrop College becoming a constituent non-grant-receiving college of the University of London.

Yours faithfully,
Rev JAMES COLLISTON,
Secretary and Convener,
Governing Body of Heythrop College.

Weak against strong

Sir, – In your leader ("Sale of the Century" *THES*, October 22) you are generous enough to support the proposition that "the committee (UGC) has promised universities that they can keep most of the proceeds of any disposed assets *and that to renege on that promise* (my italics) would jeopardize the delicate process of contraction and restructuring that is now under way." By that statement you actually encourage people in public life to continue to behave as if promises and contracts need only be kept when convenient. It would be naïve to count on the good faith of those in office, but it does still more harm to the fabric of society to connive at the dissolution of moral commitments altogether. In self defence alone it is surely desirable that the weak should deter the strong from breaking solemn agreements, if only through the vestigial embarrassment that public exposure still brings. Do that public exposure still brings. Do that we all wish to follow Dr Parkes, the UGC and their kind down the sewer of collaboration, which they have long made their home?

Yours faithfully,
J. Q. C. MACKRELL,
18 Wentworth Mansions,
Keats Grove,
London, NW3.

Inter-library loans

Sir, – Your correspondent, Dr Beard, suggests (*THES* Letters, November 19) that debate of common policies between university libraries over access, borrowing and inter-library loans by external users is overdue. It may interest readers to know that these issues have been examined on a number of occasions and were discussed in detail by university librarians as recently as 1980.

On that occasion it was concluded that local factors affecting available resources made a single national policy impracticable. Not only are university institutions autonomous (as Dr Beard will be aware) but decisions on the allocation of resources usually rests in the hands of the individual academic community which has to take local considerations into account in determining the proportion of funds that the library will receive.

Furthermore, the difficulties in persuading academic colleagues to deny themselves in favour of independent researchers should not be underestimated. Inter-library loans are not without cost: recent studies have shown that local staff costs for this service can be as high as £4.68 per inter-library loan transaction and represent 9 per cent of a library's non-material costs. With financial resources so constrained it is not surprising that some institutions have had to place limits on the use of this service even in respect of their own "internal" readers.

If additional national funding were available to sustain this operation in respect of "external" users perhaps a solution could be found. In the meantime librarians can only do their best to meet competing interests.

Yours faithfully,
ANTHONY J. LOVEDAY,
Secretary,
Standing Conference of National and University Libraries.

West Sussex cash

Sir, – John O'Leary's report "Pool millions" (*THES*, November 19) again quotes without correction the position of this institute in the "league table". As you reported the previous week, the Joint Technical Group has received evidence that alters this institute's position considerably.

I make this point not merely to correct a dangerously false impression, but to point out the danger of league tables. In our complex case only ¼ths of our funding is from the Advanced Further Education pool, the student numbers calculation is wrong in the tables you printed. The change from voluntary college funding (and associated form-filling) to a new system produced wrong information which has now been put right. Although our position in funding is unique, there may be others that have their own equally legitimate reasons for questioning what appears to be departures from an average. The average is always of doubtful value in any case for considering quality in any educational activity.

Yours sincerely,
J. F. WYATT,
Director,
West Sussex Institute of Higher Education,
Bognor Regis,
West Sussex.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if necessary.

Union view

A pampered elite among the young?

Does Michael Foot know something we don't? We all looked forward with great anticipation to Parliamentary confrontation between Norman Tebbit and Neil Kinnock, as rival employment ministers. But it is not to be, as Kinnock remains at education, or is it?

Has Foot looked around at the activities of the Manpower Services Commission and decided that, since it is encroaching on areas of education, it is likely to bring Tebbit to Kinnock?

The Manpower Services Commission has recently announced a loan scheme with no reference to the educational arrangements. It plans to pay thousands of trainees from the Youth Training Scheme in the colleges next autumn and only this week has issued political guidance to college principals on the activities of their students and trainees.

The Chancellor of the Exchequer has made the last two student grant announcements, so why not have Norman Tebbit make the next one?

This is not as crazy as it may seem. Although William Waldegrave continues to insist that students are a pampered elite among young people, he constantly ignores the 350,000 students on full-time courses in further education who get no grants.

He also ignores his own department's recent figures which show that the average student grant has fallen to £1,220 leaving thousands of higher education students living on less than they would get on a Youth Opportunities Programme.

NUS

Many students in further education who get no grant are now sitting in classrooms with others who are receiving money from supplementary benefits or from Norman Tebbit's YOP scheme. So Foot does not need to move Kinnock, Tebbit will soon be up to his neck in education.

On a different angle I was fascinated by the reasons that many people gave for supporting the National Health Service strike. Here was a service which most people hoped they would never have to use, except maternity care, but which everyone would support because they could imagine themselves needing it.

This is not yet applicable to education. Sixty per cent of the population have no further contact with education after leaving school. The view of the general public remains that education is for the young.

Only we can convince the majority of people that education is relevant to them. Only they can say themselves if there is a use for further education at work, between jobs, and in old age. And if they see no use, we will never get the same support as the health service.

The free health service removed the financial barriers to health care and we could all do the same for education with an adequate system of student financial support. But we have to go further because we also have to remove some of the academic barriers.

Education, we feel, is part of the wider structure, a part of the Great British safety net. Education is still underlying the problem of unemployment, and ought to provide the individual opportunity to became capable of fulfilling work.

It is time we remembered the socialist view of education for all people throughout life. When we succeed in getting this message through there will be another relative of Norman Tebbit's getting on his bike to deliver his application forms personally. When that happens we will know that we have succeeded.

Neil Stewart

The author is president of the National Union of Students.